

CARBON 2013

At a tipping point

TO THE POINT

One in five emitters surveyed say the EU ETS no longer has a significant impact on emission reductions. However, survey participants have a positive long-term outlook. 65 percent believe the EU will adopt the backloading proposal. A majority expect that most of the structural reforms proposed by the European Commission will be implemented. Around half say the long term carbon price is a decisive factor in investment considerations.

The CDM market is witnessing a termination of activities of an unprecedented scale. Out of all surveyed compliance entities, 45 percent report termination of investment activities. 71 percent expect new demand to emerge in the medium term. However, more than half say the market is beyond its peak and prices will remain low for the foreseeable future, against only 17 percent who disagree with this statement.

California's emissions trading scheme has caused a quarter of regulated companies surveyed to reduce emissions and another 20 percent to plan reductions in the future. Some 57 percent consider the long term carbon price a decisive factor for new investments in their industry.

The majority of participants in the Australian Carbon Pricing Mechanism believe a cap-and-trade programme will start in July 2015, even though the elections in September are likely to yield a change of government. Most regulated companies are preparing for the emissions trading system by setting up trading operations or reducing emissions.

Among Korean carbon market professionals, two thirds believe the planned carbon market will begin in 2015, while three quarters are confident it will reduce emissions. Most survey participants do not expect the carbon price to affect the competitiveness of South Korean industry in international markets.

A third of respondents believe some of China's pilot carbon trading programmes will start in 2013, down from 52 percent a year ago. However, 78 percent of survey participants share the opinion that the world's largest emitter will have a nationwide emissions trading programme eventually

Carbon market professionals are increasingly disappointed with the global climate negotiations. For the first time since Copenhagen more than half of respondents are dissatisfied with the outcome of the latest Conference of the Parties.

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EXECUTIVE SUMMARY

We launch our eighth annual survey at a time when the world's largest carbon markets are in a state of crisis. The EU ETS is gripped with uncertainty. Will policy makers reduce the oversupply in the market or will it enter a period of extremely low prices and minor significance? In 2012, the challenges of the CDM became more acute as oversupply soared and prices tumbled. But CO₂ trading has become a tale of two markets – California's carbon market is showing resilience, after it withstood a legal challenge last year and successfully came into force in January 2013.

The EU ETS is viewed as more cost-effective than a year before. A lower share of participants however considers it a mature market, after a year of high-level discussions on market intervention. The recent growth in the market's oversupply and the drop in the carbon price have impacted its ability to reduce emissions. One in five regulated companies surveyed says that, while it caused emission reductions in the past, the EU ETS has little impact today.

However, our survey participants have a positive outlook for the long-term. As many as 65 percent believe the EU will pass the "backloading" proposal. The majority of participants expect the EU to also adopt more radical reforms - 77 percent expect that EU's 2020 emission reduction target will be deepened to 30 percent, while 72 percent think that the scope of the EU ETS will be expanded.

The CDM market is witnessing an exodus of market participants – 45 percent of compliance entities surveyed say they will cease investing in CDM projects in the next three years, up from only 14 percent in last year's survey; and 26 percent plan to stop procurement and trading of primary CERs, up from only 8 percent last year. Just over half agree that the CDM is beyond its peak and prices will remain low in the foreseeable future. Amid low prices, four in five project developers and investors surveyed report readiness to explore opportunities in the voluntary offset market.

In California, regulated companies have been preparing for the inauguration of the state's carbon market by mainly setting up trading operations and planning emission reductions. A quarter of compliance entities surveyed report they have already reduced emissions as a result of California's cap-and-trade system. Another 20 percent plan to reduce emission in the future. More than half consider the long term carbon price to be

a decisive factor in investment decisions. Trading of California Carbon Allowances has ramped up recently and will likely continue to accelerate this year. A majority of carbon market professionals expect the price to be between \$10/t and \$15/t in 2013.

More than half of participants continue to expect Australia's cap-and-trade programme to begin as planned in July 2015, despite the likelihood of a change in government in September 2013. Surveyed companies, which have an obligation under the Carbon Pricing Mechanism, are preparing for the scheme by mainly establishing operations for buying allowances and offsets and engaging in internal abatement. Regulators of the Australian and the European carbon markets announced last year they would link the two schemes in 2015. However, only 11 percent say they are currently investing in EUAs.

As South Korea prepares to launch an emissions trading scheme in 2015, survey participants have positive expectations about the scheme's potential. Two thirds expect the carbon market to become operational as planned in January 2015. A further 74 percent share the opinion that the scheme will drive domestic emission reductions. Most do not expect Korea's ETS to cause carbon leakage, but still 18 percent think that it will hurt Korean industry's competitiveness in international markets.

A lower share of participants believes that some of China's regional programmes will start this year. This share is down to a third from 52 percent since last year's survey. Yet, most respondents, or 78 percent, believe that the world's largest emitter will have a nationwide emissions trading system eventually. Around 60 percent expect such a scheme to be in place by the end of 2020.

The latest high level climate change meeting produced a continuation of the Kyoto protocol, which will cover around 15 percent of global emissions. Our survey results confirm a trend of increasing disillusionment with the multilateral climate negotiations, which began with the conference in Cancun. The share of participants who believe there will be a global agreement with internationally binding targets for major emitters fell to 27 percent from 34 percent from last year. More than a third of participants expect the current pledge-and-review climate regime to continue after 2020.

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1. INTRODUCTION

The world's largest carbon markets are at a tipping point. Oversupply and consistently low prices threaten to render the EU ETS insignificant. Regulators offered to withdraw allowances from the market, but the proposal faces an uncertain future in the absence of clear support from a majority of European policy makers. Political uncertainty also clouds the prospects for a carbon market in Australia. Canberra put a price on carbon in 2012; however the projected winner of the 2013 general elections pledges to repeal it. Meanwhile, prices for Certified Emission Reductions (CERs) trade below 1 euro per ton after collapsing in 2012 amid rising issuance and low international demand.

Yet emerging carbon markets offer

silver linings. California regulators cleared their first auction in 2012 and initiated the state's carbon market on 1 January 2013. Regulated companies are now implementing their compliance strategies and trading of permits is accelerating. Last year South Korea and China announced plans for national and regional schemes.

“1,108 fewer participants took part after closures of carbon market activities in 2012

In 2012, international negotiations under the UNFCCC produced a continuation of the Kyoto protocol. The second commitment period will run from 2013 to 2020 and include around 15 percent of global emissions. Due to

constraints on public budgets at home, developed countries in Doha avoided scaling up current climate finance pledges.

In this context, we release our eighth annual survey of the world's carbon markets. In Carbon 2013, we continue to explore how market participants and observers view the present and the future of CO2 trading. Our survey covers the EU ETS, CDM, JI, New Zealand ETS, the Western Climate Initiative (WCI) comprised of California and Quebec, emerging carbon markets in Asia and Australia, as well as international negotiations.

This year's survey ran from 30 January to 24 February and garnered views from a total of 2,041 respondents, using a web-based tool. Compared to last year's survey, 1,108 fewer participants took part, a fact which probably

Figure 1: Carbon market roles

Categories of respondents, N=1948



Source: Thomson Reuters Point Carbon

reflects the recent shrinkage of carbon market activities, particularly in the CDM segment.

Figure 1 illustrates the distribution of participants according to their role in their respective carbon markets.

Among the respondents, 28 percent describe themselves as service providers. In this subgroup, project management consultants comprise the largest segment, accounting for 33 percent of all service providers. Technical consultants represent 26 percent of this subgroup, followed by professionals involved in research, analysis, or news, accounting for 14 percent.

The second largest group of respondents is investors and developers involved in the primary

CDM and JI markets. These account for almost 16 percent of all participants. Within this group, 78 percent are involved in the CDM market.

Compliance buyers with emissions subject to a cap-and-trade scheme represent 13 percent of our sample. The majority of this group has a compliance obligation under the EU ETS. These make up 202 compliance buyers, or 80 percent of all regulated entities in our survey. The number of respondents with emissions covered under the Australian Carbon Pricing Mechanism (CPM) is 19, followed by compliance buyers in the Western Climate Initiative (California or Quebec), at 15.

It should be noted that this survey is conducted among individuals with significantly more than

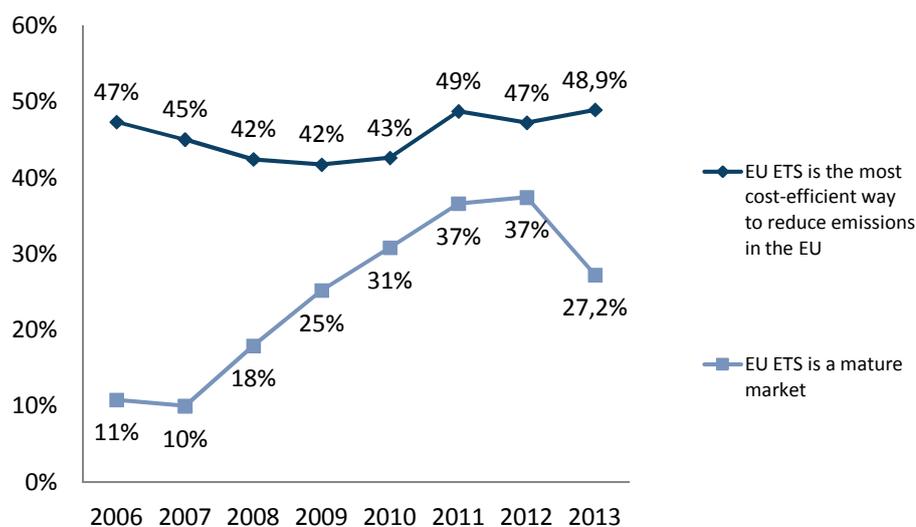
average interest in carbon trading. Since taking the survey is based in part on individual motivation, the sampling of various subsets of the carbon community is less than scientific and thus susceptible to bias. All interpretations of the survey should therefore be read bearing in mind that the sample has not been drawn in a representative way. Furthermore, inferences to general public opinion should be avoided.

2. EU ETS

The oversupply of the EU ETS has continued to rise. Last year saw the largest gap between annual supply and demand in the market's history. The average price for European Union Allowances (EUAs) dropped from double digits in 2011 to 7.30/t in 2012.

Figure 2: Assessing the EU ETS

Share of respondents agreeing with the given statements, given as options 4 to 5 on a scale from "strongly disagree" (1) to "strongly agree" (5). Asked to compliance companies, financial institutions, banks, carbon funds, brokers, governments and consultants involved in the EU ETS, N=766



Source: Thomson Reuters Point Carbon

The low prices reflect the fact that Europe's emission reduction target has become easier to meet. There are two main reasons for this – poor economic conditions and the EU's policies for promoting renewable energy and energy efficiency outside of the EU ETS.

However, many market participants fear that low EUA prices have an unintended consequence – they can make the EU ETS insignificant. Amid low prices, governments that aim to decarbonize their economies can enact national climate policies and gradually replace the pan-European carbon market. Such threats to the future of the market have prompted the European Commission to put forward proposals to reduce the oversupply of the EU ETS. Discussions on these proposals ramped up in 2012 and became the main driver for EUA prices.

2.1 Does the EU ETS work

Nearly half of all respondents consider the EU ETS to be the most cost-efficient way to reduce emissions in the EU. The share of participants who agree with this statement is at its highest level since we started the survey seven years ago. We attribute this sentiment to the proven adaptability of the market to broader macroeconomic conditions. Last year, the EU ETS responded to the contracting economic activity in the EU by generating lower EUA prices.

The recent market developments, however, have affected the image of the EU ETS as a mature market. Only 27 percent of respondents say the market is mature, down by 10 percentage points from last year. The fact that more and more financial players have left the EU ETS due to lower price levels

and higher regulatory uncertainty could be one reason why a lower share of participants considers the market mature. Discussions over market intervention and changes to the overall market design also indicate a market which is still in development.

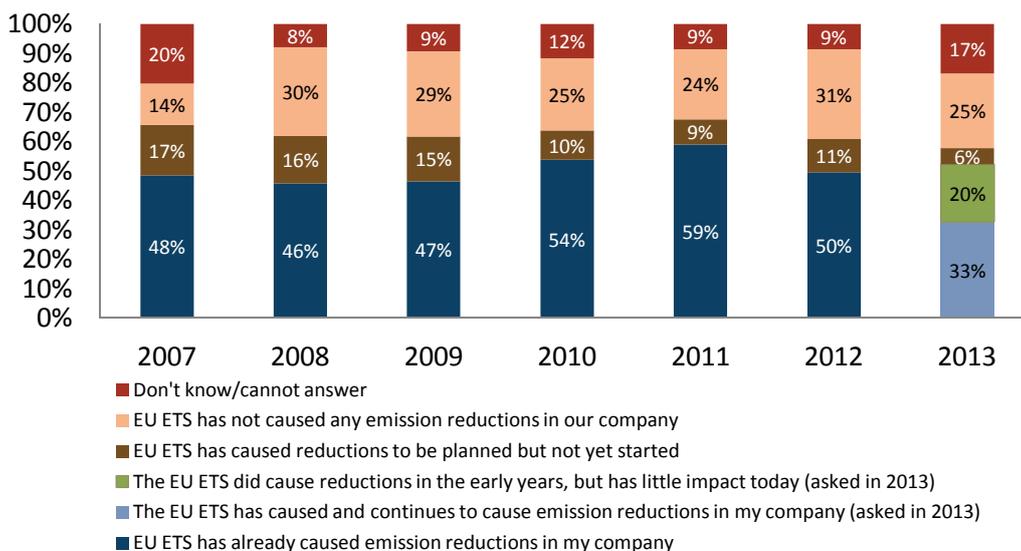
Respondents' perspectives on emission reductions are in line with previous surveys. Around half of respondents report the EU ETS

“20 percent say the EU ETS caused emission reductions in the past but is no longer significant

has caused abatement in their company. This year, we examined this result further by including two new response options in the question – “the EU ETS has caused and continues to cause emission reductions” and “the EU ETS did

Figure 3: EU ETS and internal abatement

“To what extent has the EU ETS caused your company to reduce its own emissions?” Questions asked to EU ETS compliance entities, N=178



Source: Thomson Reuters Point Carbon

cause reductions in the early years but has little impact today". Of all respondents, 20 percent say that the ETS is not reducing emissions in their companies anymore, while 33 percent state the system continues to cause emission reductions.

The share of respondents who plan to reduce emissions as a result of the EU ETS has nearly halved from 11 percent in 2012 to only 6 percent in 2013. These results imply an overall weaker incentive to reduce emissions, which most likely results from the drop in prices and the increased regulatory uncertainty. The share of participants who are unsure if the market is causing emission reductions has almost doubled from 9 percent to 17 percent.

Our respondents see a low risk of carbon leakage for EU ETS companies – moving production to a region with a lower price of carbon. Compared to previous years, a somewhat smaller share of respondents consider moving production outside the EU ETS territory (9 percent in 2013 compared to 13 percent in 2012). Meanwhile 86 percent of the respondents see no reason for moving production, up slightly from 81 percent in 2012. One of the factors behind these results is likely the generous classification of companies that are considered under risk of carbon leakage, which allows them to receive a larger amount of allowances for free.

Our participants' views on the importance of the long term carbon price for investment decision have stayed largely the same. Out of 202 surveyed compliance entities, 45 percent say the long term EUA price is a decisive factor for investments in their industry. Since

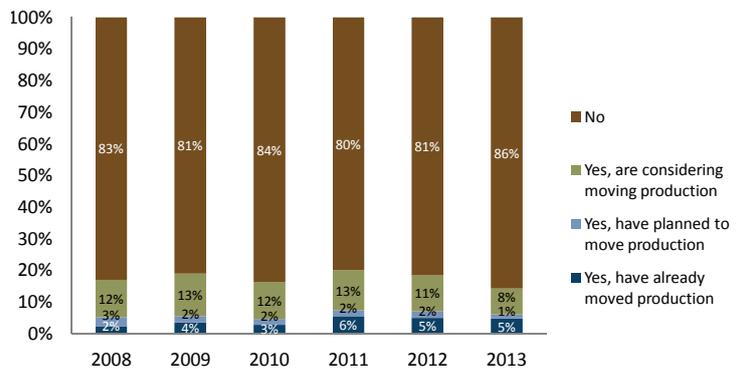
last year's survey, there has been a shift from the share of respondents who say the price only influences calculations to those who consider it a decisive factor.

Despite the current challenges of the EU ETS, the compliance entities we surveyed believe the market will remain significant in the long term.

This belief is likely born out of their expectations that policy makers will implement measures to reduce the oversupply in the market. In the following section we explore what participants expect from the Commission's proposals to reform the market.

Figure 4: EU ETS and carbon leakage

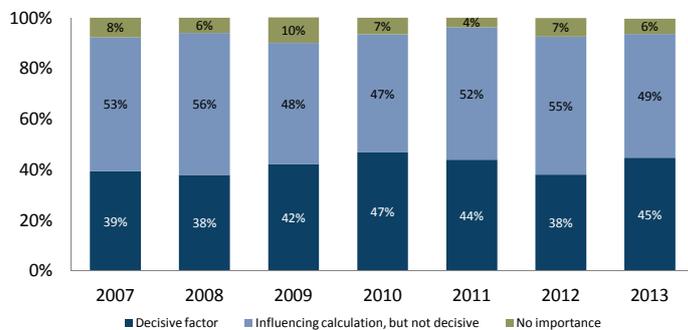
"Has your company considered moving production outside the EU ETS area because of carbon costs?" Question asked to EU ETS compliance entities, N=173



Source: Thomson Reuters Point Carbon

Figure 5: Carbon price importance for investment decisions

"How important is the long-term carbon price (e.g. in 2020) for new investments in your industry?" EU ETS compliance entities, N=173



Source: Thomson Reuters Point Carbon

2.2 Backloading and structural reform

The European Commission has proposed to reduce the oversupply in the market through short- and long-term measures. Its proposal for short-term intervention is to delay the auctioning of 900 million allowances to the later years of phase 3, known as "backloading". This plan would reduce the oversupply in the next few years but not change the overall supply and demand balance in the market. To address the long-term balance, the Commission offers six options. One of these includes the cancellation of the "backloaded" allowances. Other proposals include deepening the EU's emission reduction target and including other sectors in the EU ETS.

The proposals for backloading and

for structural reforms follow two different legislative processes. We asked our participants how likely each is to be implemented and when it will take effect.

“ 65 percent believe that backloading will be adopted

A large majority of respondents, or 65 percent, expect backloading to be adopted. Views however differ as to when the backloading will take effect. Some 27 percent believe it will be implemented in the second half of 2013 while 30 percent say it will come into force in 2014 or later.

Views also vary depending on participants' role in the market. Out of all compliance entities, 63 percent anticipate backloading. Financial traders are more

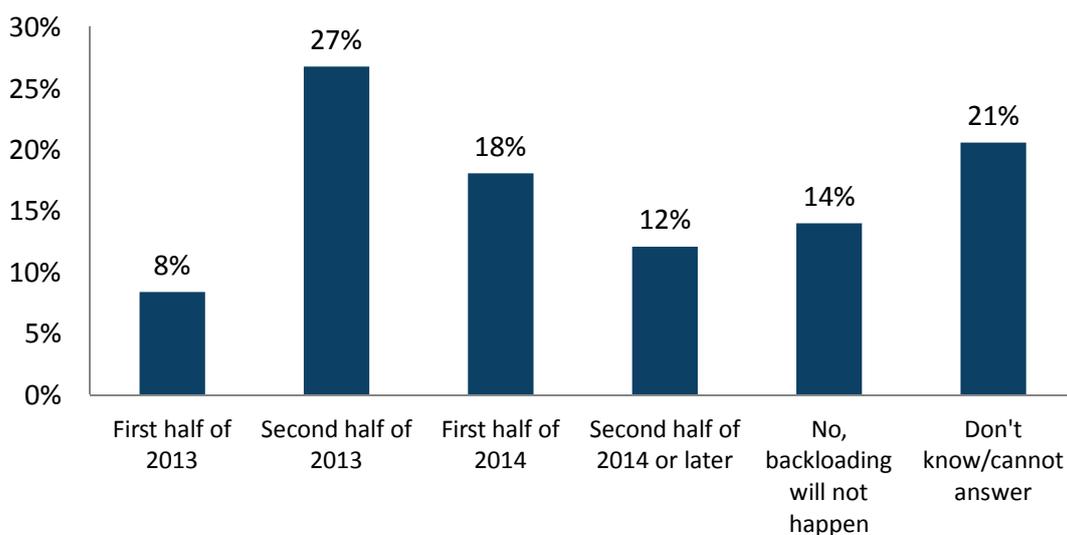
bullish- as many as 75 percent of them believe allowances will be backloaded.

Out of all market participants, only 14 percent do not expect backloading to pass, but a significant share of respondents, 21 percent, expresses uncertainty over if and when the EU will implement the proposal.

Our survey participants are less optimistic about the prospects of permanent cancellation than for backloading. Less than half, or 42 percent, believe that some allowances will be cancelled, while 31 percent expect no permanent cancellation at all. Uncertainty among respondents is also significant, with 27 percent saying they are unsure. Among those who believe allowances will be cancelled, the largest share expects a removal of 900 million tons.

Figure 6: Back-loading to the future

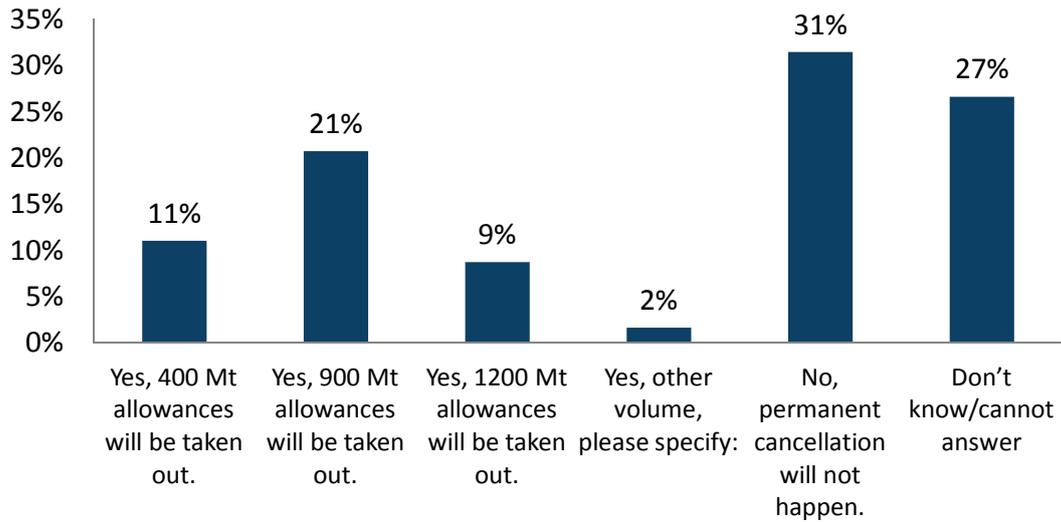
"Do you think that backloading will pass the political process and if so, when will the market have clarity?" Asked to all respondents involved in the EU ETS. N=748



Source: Thomson Reuters Point Carbon

Figure 7: Outlook for permanent cancellation of allowances

“Do you think that there will be a permanent cancellation of allowances, and if so, how many allowances will be permanently taken out of the market?” Asked to all respondents involved in the EU ETS. N=748



Source: Thomson Reuters Point Carbon

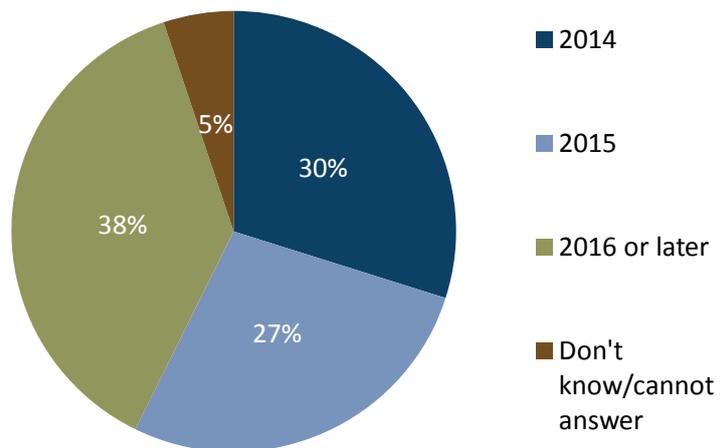
Looking at the likely timeline for permanent cancellation, 38 percent expect it to take place in 2016. Meanwhile, more than half think it will take place by 2015. This is an ambitious timeframe since the cancellation of allowances will require a significant amendment of the EU ETS directive.

We also asked survey participants about when, if ever, they believe that each of the proposals for structural market reform will take place (Figure 9). Most respondents believe that most of the proposals will be adopted, with the greatest confidence in a strengthening of the 2020 target. The results confirm an overall consensus in the market that the EU will act to reduce the oversupply of the EU ETS.

Looking at individual options

Figure 8: Timeline for permanent cancellation

“When do you expect a permanent cancellation to start?” Asked to respondents who expect cancellation. N=314



Source: Thomson Reuters Point Carbon

for reform, the highest share of respondents, or 77 percent, believes that the EU will increase its 2020 emission reduction target to 30%. One way to do this is to increase the linear factor, which determines the rate at which the cap is reduced each year. There are 61 percent of respondents who believe this factor will be revised. The current linear reduction factor is 1.74 percent. We project that an annual reduction in the cap of 1.74 percent will not be sufficient

“ the results confirm an overall consensus in the market - the EU will reduce the system’s oversupply

to meet EU’s long-term climate target - to reduce emissions by at least 80 percent by 2050,

compared to 1990 levels.

Another option our respondents see as very likely is an extension of the scope of the EU ETS. As many as 72 percent of respondents believe this will take place either before or after 2020. The least likely option according to our participants appears to be the implementation of a discretionary price management mechanism. Only a third of respondents believe such a mechanism will ever be implemented.

2.3 Company positions in phase 3

Phase 3 of the EU ETS brings with it major changes to how allowances are allocated and to whom. The EU grants free allocation to the industry and aviation sectors as well as utilities in Eastern Europe. For

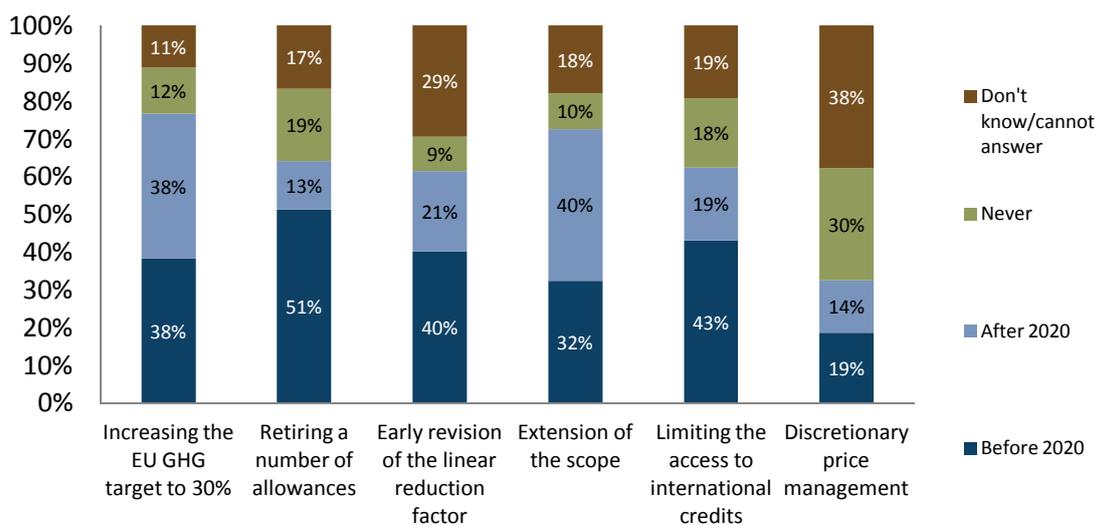
industrial emitters, allowances are allocated on the basis of efficiency benchmarks. Installations receive as many allowances as are needed to cover most of the emissions of the 10 percent most efficient installations, which produce the same product.

Partially due to the complexity of this method, the process of determining the exact amount of allocation for each installation has run into delays. When we launched our survey, the allocation per installation had not been determined. Participants, however, gave us their assessment of their position in phase 3 (Figure 10).

A large share of participants, or 44 percent, reports a need to buy allowances at auctions or in the secondary market. This reflects the shift from free allocation to auctioning as the default

Figure 9: Options for market reform

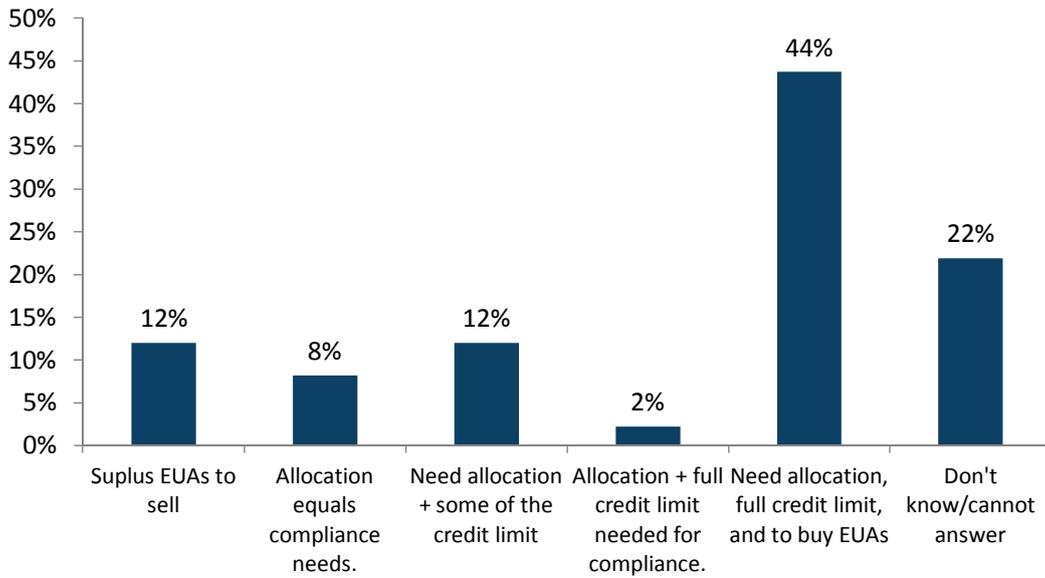
“When (if ever) do you think the proposed structural measures will be implemented?” Asked to all respondents involved in the EU ETS. N=738



Source: Thomson Reuters Point Carbon

Figure 10: What best describes your company's situation in the EU ETS phase 3?

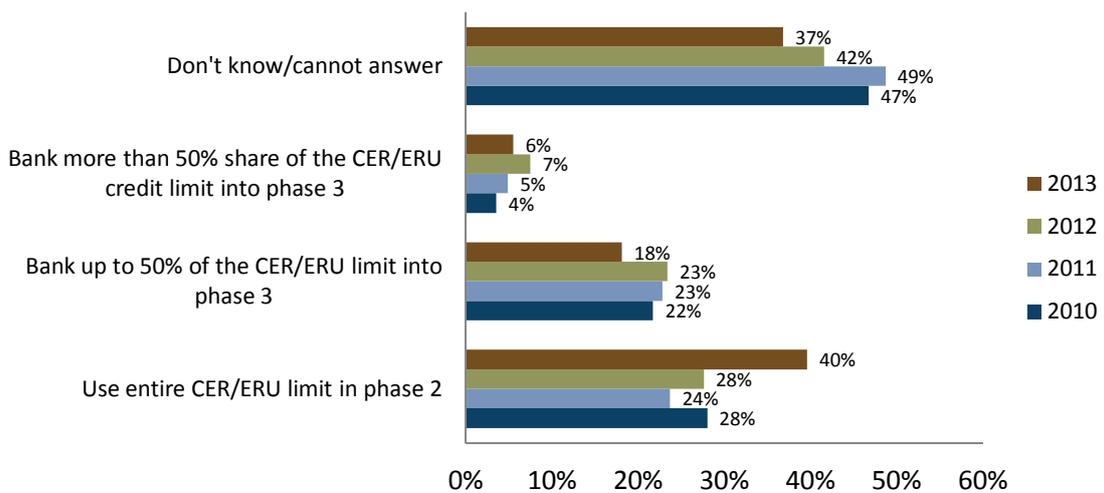
Question asked to EU ETS compliance entities. N=183



Source: Thomson Reuters Point Carbon

Figure 11: Use credits or bank them?

Question asked to EU ETS compliance entities. N=182



Source: Thomson Reuters Point Carbon

method to distribute allowances. Interestingly, for as many as 12 percent, the free allocation is more than enough to meet compliance needs. This could reflect low production levels compared to the historical production data used to determine the amount of allocation. Since the process of allocating allowances was not complete by the time we launched our survey, understandably 22 percent reported they did not know their position in phase 3.

2.4 Use of the credit limit

So far, 558 million credits have been used for compliance in phase 2. The total amount that can be used for phase 2 compliance is 1400 million. Last year's 90 percent drop in prices for Certified Emission Reductions (CERs) made it more profitable for compliance entities to use credits for compliance.

As a result, our survey participants report a higher willingness to

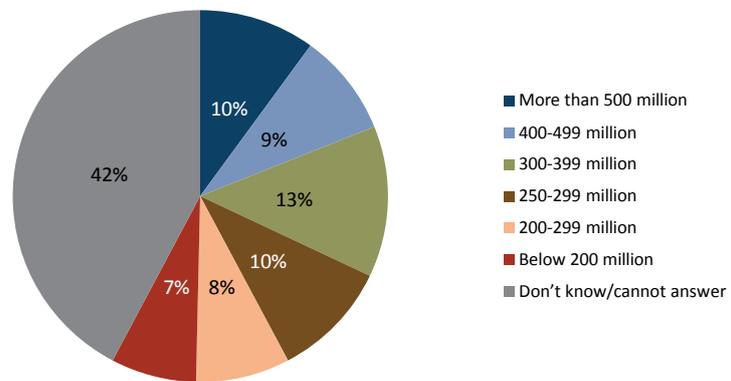
use the entire phase 2 credit limit for compliance. This share of respondents has increased by 12 percentage points since last year to 40 percent. Another factor influencing participants' intention to use their credit limit is the restriction placed on the use of CERs from certain project types

from 2013.

Overall, the number of credits used for 2012 compliance is likely to increase compared to previous years. One-third of the respondents that provided a view on the expected number of CERs/ERUs surrendered for 2012 compliance

Figure 12: Expectations for CER/ERU surrender for 2012 compliance

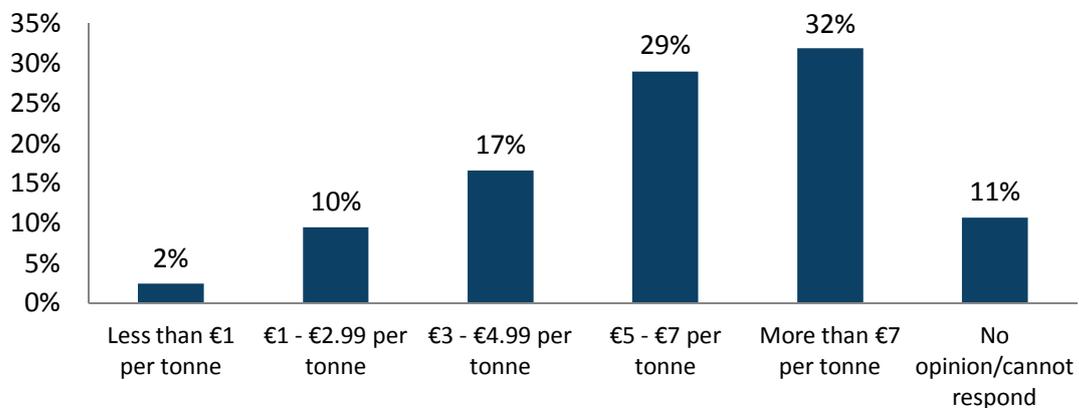
Asked to all respondents involved in the EU ETS. N=761



Source: Thomson Reuters Point Carbon

Figure 13: Expectations for average EUA price in phase 3

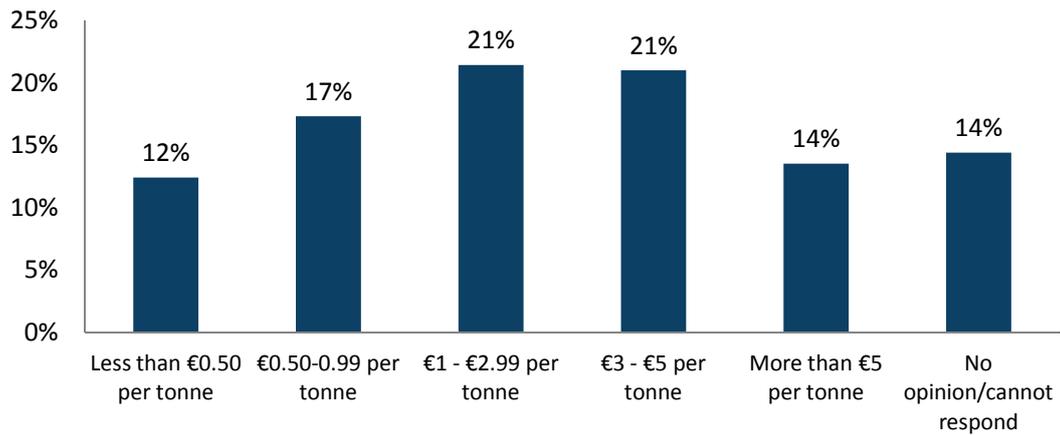
Asked to all respondents involved in the EU ETS. N=759



Source: Thomson Reuters Point Carbon

Figure 14: Expectations for average CER prices in phase 3

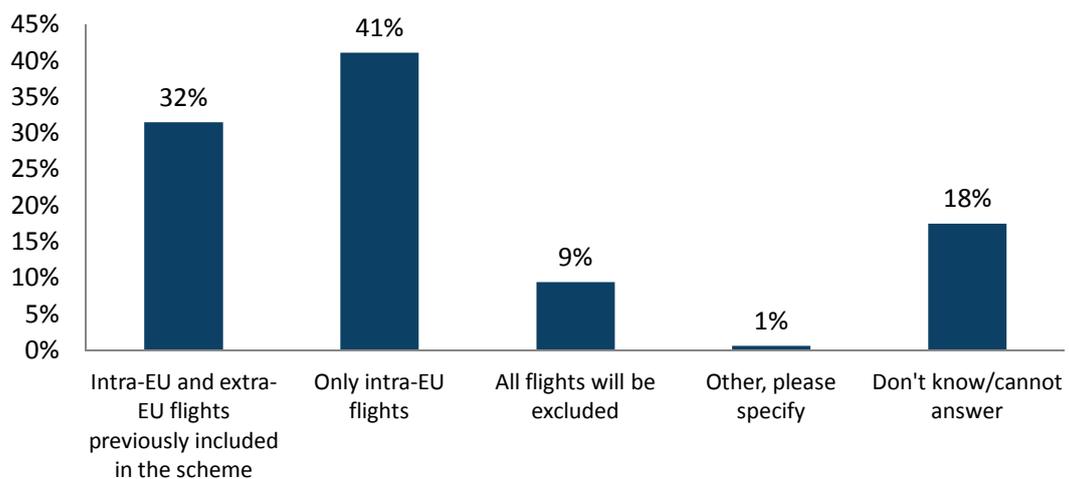
Asked to all respondents involved in the EU ETS and CDM. N=1138



Source: Thomson Reuters Point Carbon

Figure 15: The future of aviation in the EU ETS

"Which flights do you think will be included in the EU ETS after 2013?" Asked to all respondents involved in the EU ETS. N=727



Source: Thomson Reuters Point Carbon

believe more than 400 million credits will be used. Compliance entities surrendered 256 million credits in 2011. We expect the 2012 credit usage to be between 400 and 450 million tons.

2.5 Price expectations

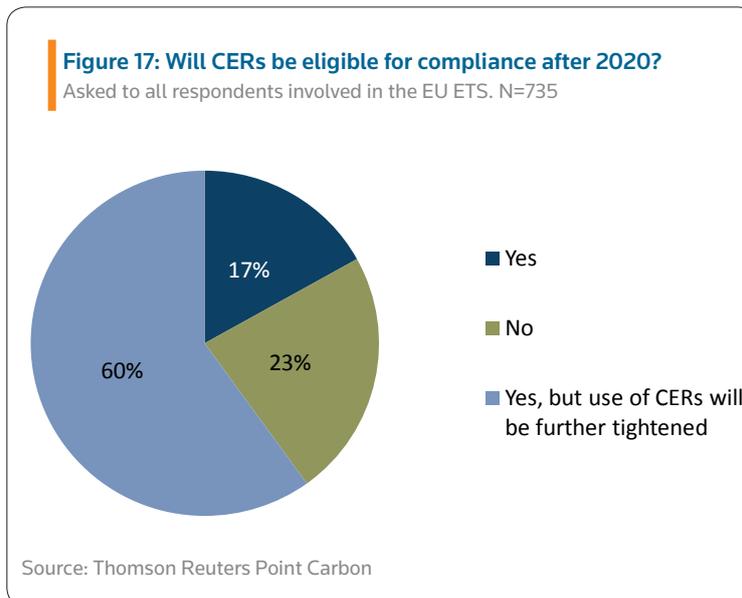
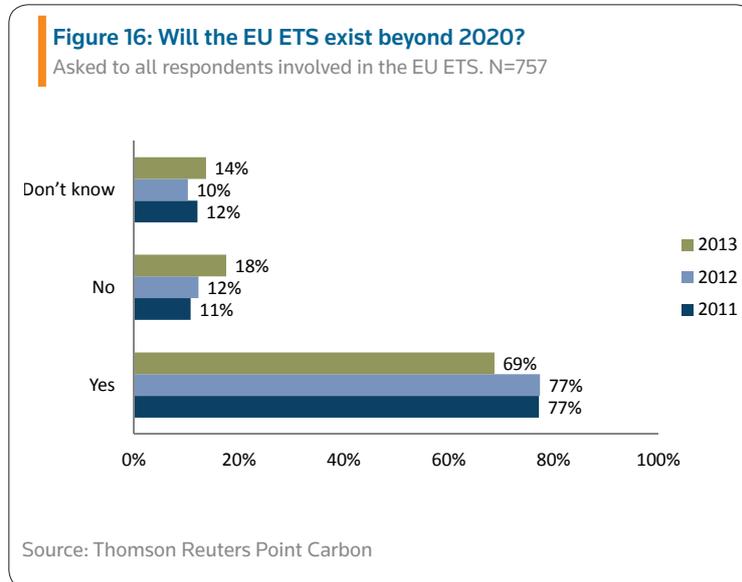
To gauge price expectations, we surveyed traders, compliance entities, project developers, and service providers with a stake in the EU ETS about what they expect the average EUA price to be in phase 3. The majority of respondents think that the carbon price will average €5/t or higher in phase 3 with over 30 percent saying that the phase 3 price will average above €7/t.

These results imply that respondents expect prices to increase significantly from current levels. So far in 2013, EUAs have traded at an average of €4.90/t. The higher price expectation is consistent with the belief most market participants share that the EU will reduce the oversupply in the market. The price projection of most respondents most likely reflects a backloading of allowances as well as structural reforms such as the cancellation of allowances, as we think both will be needed to increase prices significantly.

We also asked carbon market professionals involved in the EU ETS where they expect CER prices to be in phase 3. The majority believe the average price will be above €1/t, but only 14 percent expect it to be above €5/t.

2.6 Aviation

When they entered the scheme in 2012, airlines had to comply with the EU ETS for all flights arriving



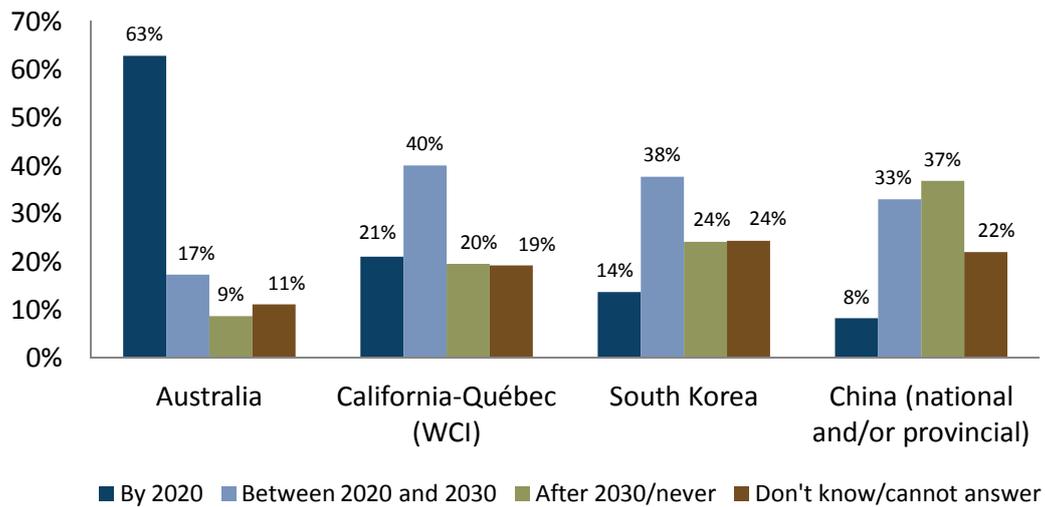
or departing from EEA airports. However, in November last year, the Commission proposed reducing the scope of the aviation sector by exempting all extra-EU flights from the 2012 compliance obligation. The so called “stop the clock” plan proposes to introduce these flights again into the scheme in 2013, if

the meeting of the International Civil Aviation Organization does not produce a global framework for reducing emissions in the aviation sector.

A third of our respondents believe that extra-EU flights will be introduced in the scheme again. A larger share, of 41 percent, believes

Figure 18: Linking expectations

Asked to all respondents involved in the EU ETS. N=735



Source: Thomson Reuters Point Carbon

that only intra-EU flights will be included in the EU ETS after 2013.

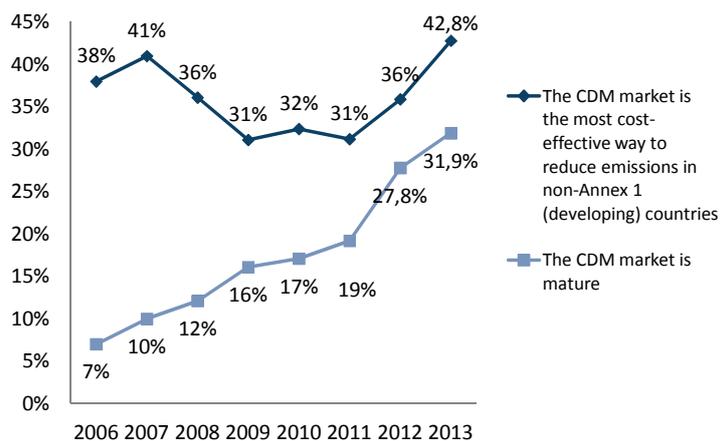
2.7 Post-2020

A large majority of survey participants expect the EU ETS to continue beyond 2020. This is not surprising considering that current legislation stipulates the continued existence of the carbon market with a cap which falls by 1.74 percent each year. Notable, however, is a slight decrease of eight percentage points in the share of respondents who believe so. The share of participants who do not expect the market to exist post 2020 has also increased slightly by six percentage points.

The eligibility of CERs will most likely continue after 2020, according to most of our respondents. The majority however believes that there will be further restrictions on eligible credits.

Figure 19: Assessing the CDM

Share of respondents agreeing with the given statements, given as options 4 and 5 on a scale from "strongly disagree" (1) to "strongly agree" (5). Asked to all respondents involved in CDM. N=755



Source: Thomson Reuters Point Carbon

2.8 Linking

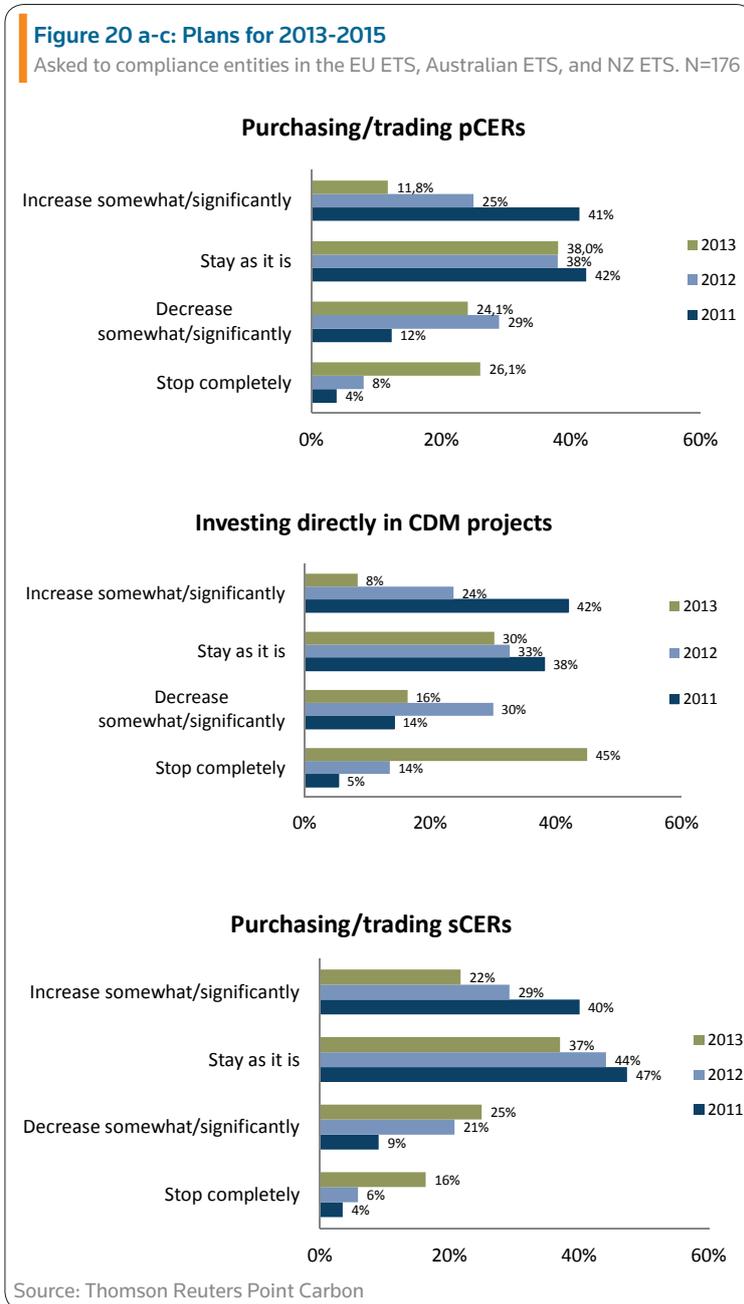
Considering the potential for linking with other markets, survey respondents indicate Australia as the first destination to link with the EU ETS, after regulators from both markets last year announced plans for linkage. A slightly higher share believes the EU ETS will link with the WCI (21 percent) than with South Korea (14 percent) by 2020. A third believe the EU ETS will link with carbon markets in China between 2020 and 2030.

“The share of participants reporting termination of CDM investments has tripled since last year

3. CDM

The CDM market experienced severe difficulties in 2012. Market supply surged as project developers rushed to register projects before the end of the year to ensure their credits are eligible for use in the EU ETS. Demand, however, was stagnant – the outcome of Doha’s Conference of the Parties (COP) did not generate any significant new ambition to reduce emissions and therefore led to no new demand for Certified Emission Reductions (CERs). Prices for secondary CERs lost 90 percent of their value over the year.

In this year’s survey, we continued to ask CDM professionals about the cost-effectiveness and maturity of the market to examine how opinions have changed over time. Given the precarious state of the market, we also asked investors and project developers how their business activities are changing and where they see the



CDM market going forward.

Market participants show more certainty that the CDM is the most cost-effective way to reduce emissions in developing countries. The share of respondents who

agree with this statement has risen by seven percentage points since last year’s survey. Similarly, a higher share of participants view the market as mature compared to 2012. However, despite their

upward trends, these statistics remain fairly low. Less than half of respondents think the CDM is the most cost effective means of climate change mitigation in the developing world and less than a third think it is a mature market.

3.1 Market strategies

Looking at investment and purchasing plans for the next three years, respondents report a notable unwinding of activities. A whole 45 percent say they will cease investments in CDM projects. The share of respondents reporting termination of investments rose to 45 percent, up from only 14 percent last year. Likewise, only 8 percent report plans to increase investments, down from 24 percent a year earlier.

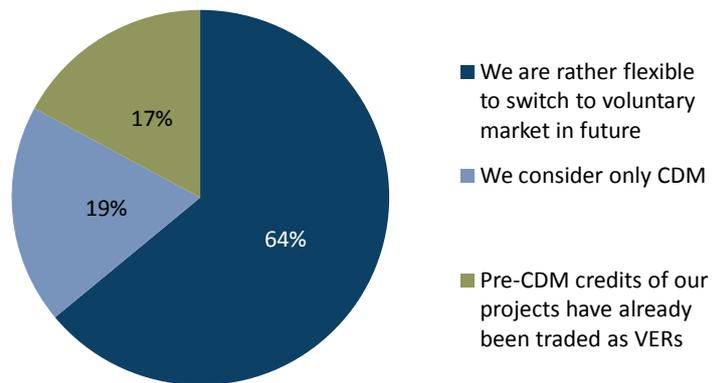
Half of respondents plan to stop or decrease procurement or trading of primary CERs, up from 37 percent last year. Similarly, the share of investors surveyed planning to increase purchasing of primary CERs is 12 percent, half of what this share was last year.

The slowdown of CDM activities is somewhat less pronounced in the secondary CER market. This year, 16 percent of participants report plans to stop purchasing or trading, up from 6 percent last year. The secondary market also boasts the highest share, at 22 percent, of respondents who plan to increase procurement or trading activities.

Amid limited demand and low prices, most participants, 64 percent, say they are ready to turn to the voluntary offset market. Meanwhile, only 19 percent of our respondents exclude the possibility of selling in the non-compliance market.

Figure 21: Opportunities in the voluntary market?

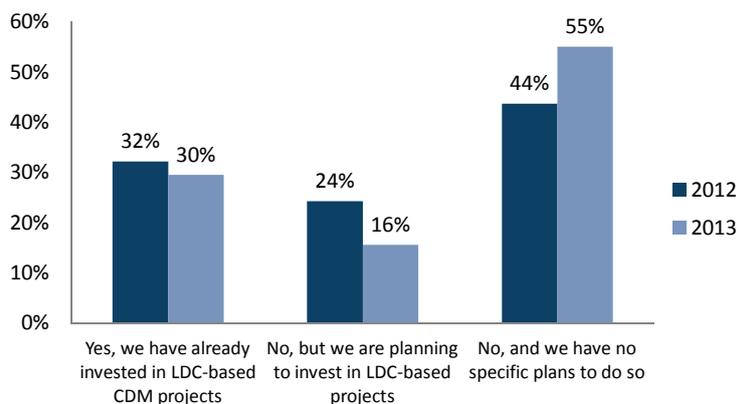
"If demand for CERs in compliance market keeps low, would you turn to the voluntary market?" Asked to developers, investors and owners of CDM/JI projects. N=271



Source: Thomson Reuters Point Carbon

Figure 22: Developing CDM niches - projects in Least Developed Countries

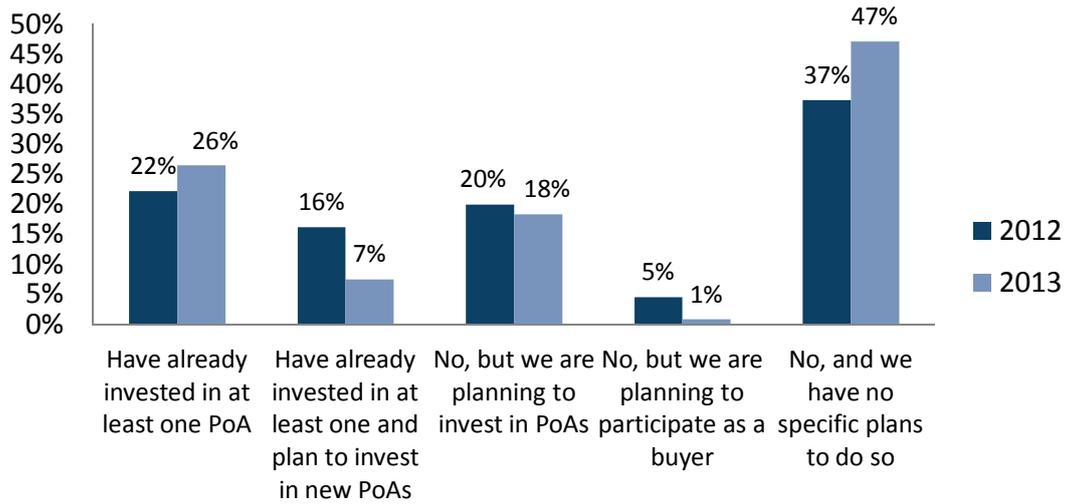
"Is your company investing in CDM projects based in least developed countries (LDCs)?" Asked to developers, investors, and owners of CDM/JI projects and project portfolio managers. N=296



Source: Thomson Reuters Point Carbon

Figure 23: Developing CDM niches - investing in PoA projects

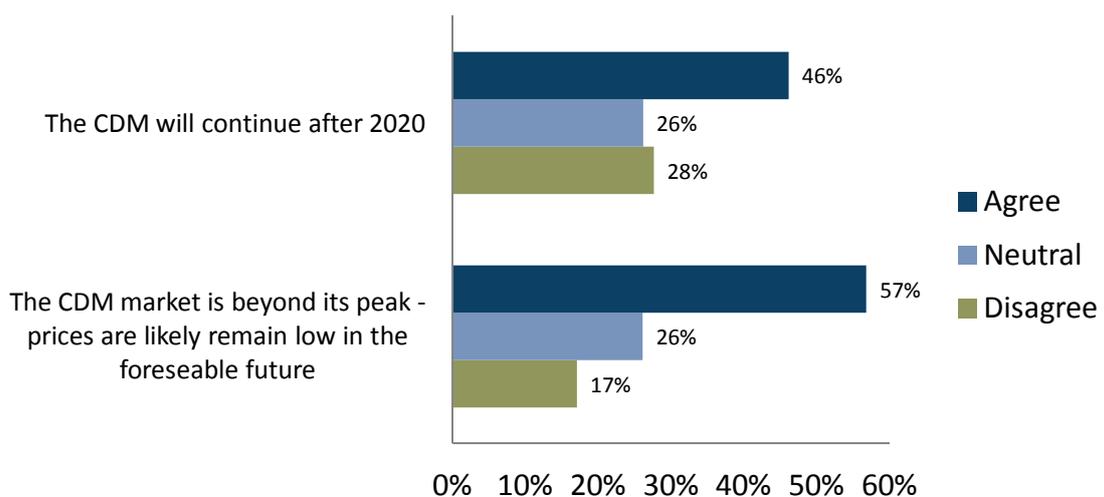
"Is your company investing in CDM projects based in least developed countries (LDCs)?" Asked to developers, investors, and owners of CDM/JI projects and project portfolio managers. N=296



Source: Thomson Reuters Point Carbon

Figure 24: The future of CDM

Participants asked to indicate the degree to which they agree with the following statements. Asked to all respondents involved in the CDM market. N=745



Source: Thomson Reuters Point Carbon

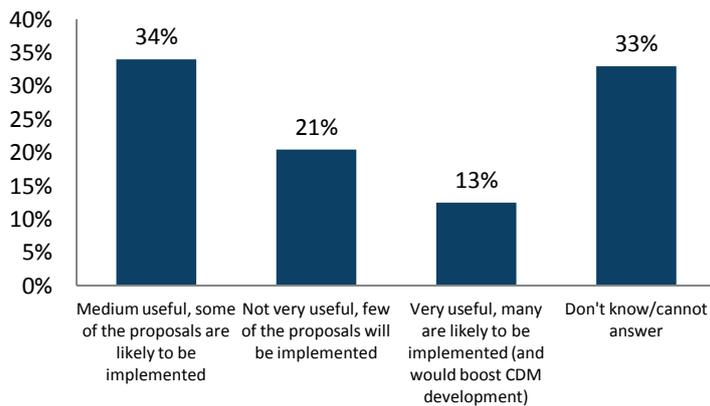
In late 2012, the CDM Executive Board enabled the cancellation of CERs in the CDM Registry. Project owners can now sell their credits in the voluntary market without the need for registration with another system. However, the ability to sell CERs will likely be limited to projects that bring environmental and social benefits other than the amount of emissions abated. Sellers in the voluntary market must meet the diverse requirements of buyers, whose purchases are most often motivated by corporate social responsibility and branding.

Credits from projects registered after 2012 outside of a Least Developed Country (LDC) will not be eligible for use in the EU ETS. However, the majority of CDM investors surveyed report no plans to develop projects in LDCs. This share is higher than last year's by 11 percentage points, a rise which can be attributed to the sharp drop in CER prices. The share of respondents planning to invest in LDC countries has also dropped from 24 percent to 16 percent this year. The low CER prices mean that projects in LDC countries will continue to be driven by government aid funds rather than private capital.

A niche segment of the CDM market, Programme of Activities (PoA), has seen an important development since we published last year's report. The first PoA project issued credits last year for distributing Compact Fluorescent Light bulbs across Mexico. It was quickly followed by two other projects, which issued their first credits in early 2013, one in Bangladesh and one in China. However, the drop in CER prices has affected the PoA market. The share of respondents reporting no

Figure 25: The CDM policy dialogue

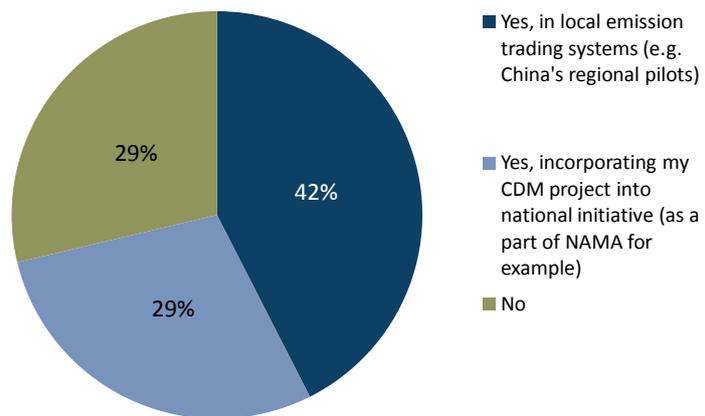
"How useful do you find the recommendations from the CDM Dialogue?"
 Asked to all respondents involved in the CDM market. N=742



Source: Thomson Reuters Point Carbon

Figure 26: Expectations for new demand in the medium term

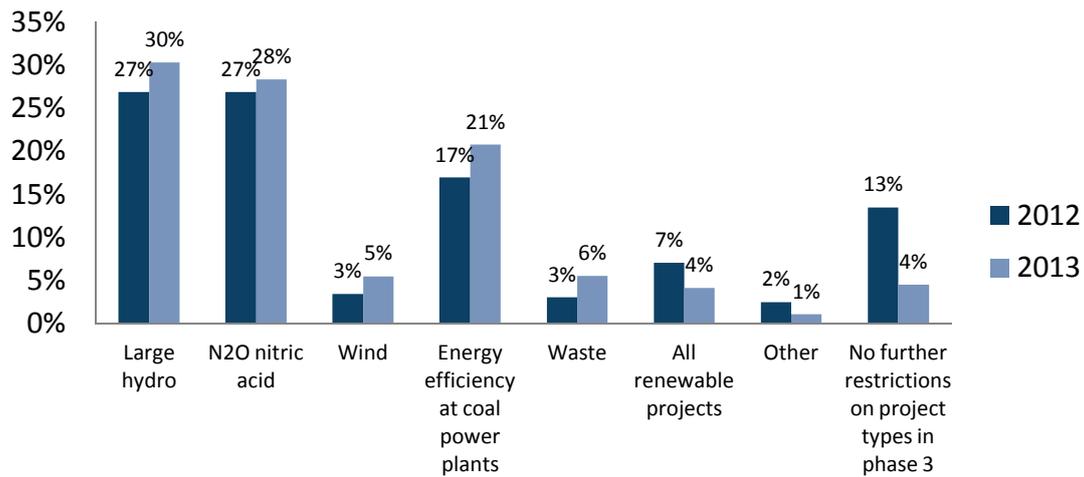
Asked to all respondents involved in the CDM market. N=739



Source: Thomson Reuters Point Carbon

Figure 27: Future EU ETS credit restrictions?

“Carbon credits from which CDM project types do you find the most likely to be subject to new restrictions in the EU ETS?”
 Asked to participants involved in the EU ETS and CDM markets. N=1106



Source: Thomson Reuters Point Carbon

“ More than half expect prices to remain low in the foreseeable future

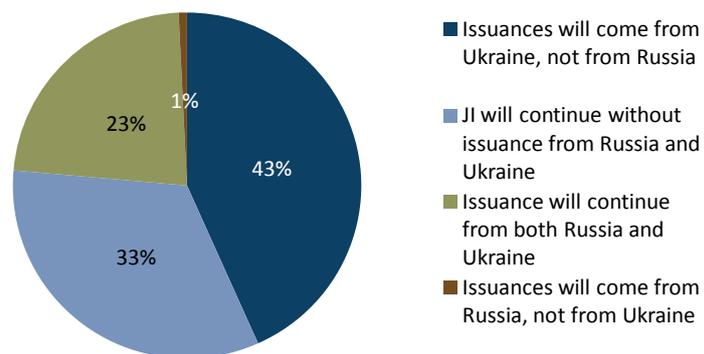
plans for investments rose by ten percentage points to 47 percent. Similarly, the share of survey participants who have invested in PoAs before and plan to invest in the future fell by 9 percentage points to seven percent.

2.2 The future of CDM

Most respondents believe the woes of the CDM market are here to stay. More than half agree to the statement that the market is beyond its peak and prices will remain low for the foreseeable future. Even at low prices, 46 percent of respondents expect the CDM to continue to exist after 2020. Meanwhile, 28 percent believe the CDM will cease to exist

Figure 28: Sources of ERU issuance post-2012

Will JI issuance come from Russia and/or Ukraine? Asked to participants involved in the JI market. N=242



Source: Thomson Reuters Point Carbon

by 2020.

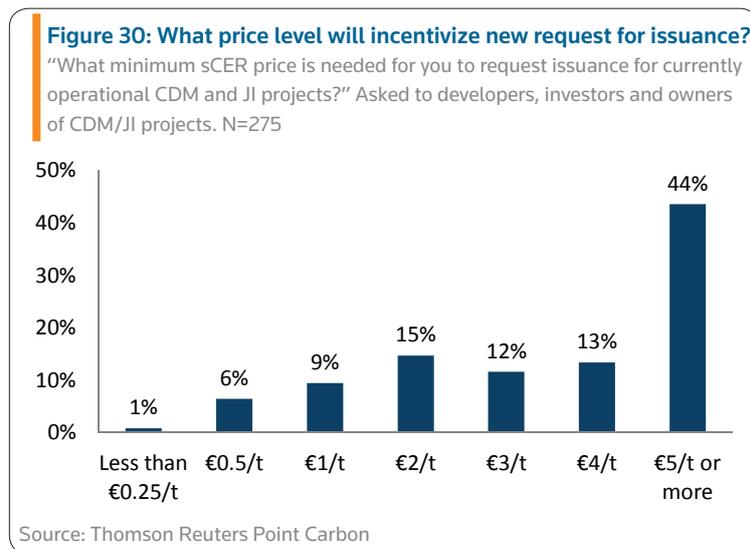
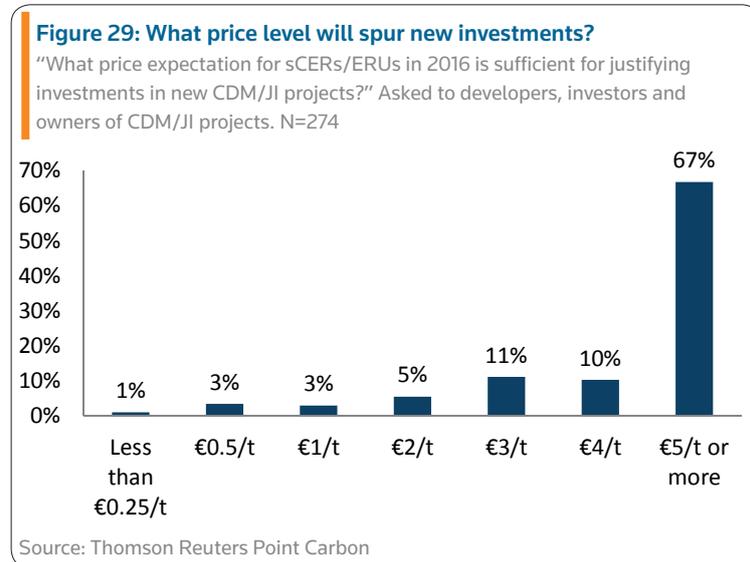
The CDM Policy Dialogue in 2012 put forward many proposals to address the challenges facing the CDM market. Over half of our survey participants describe these talks as somewhat or not very useful and do not believe many of the proposals will be implemented.

However, asked whether they expect any additional demand in the medium term, most survey participants answer in the affirmative. Some 42 percent expect CDM credits to be eligible for compliance in local emission trading systems such as China’s regional pilot programs. Another 29 percent believe that other national initiatives such as Nationally Appropriate Mitigation Actions (NAMAs) can draw CERs. A significant 29 percent, however, believe there will be no new demand for CERs in the medium term.

Most of our participants, 96 percent, expect the EU to impose further restrictions on eligibility of CERs. The largest share of respondents believes that large hydro will be first on the firing line, followed by nitric acid and energy efficiency at coal power plants. The share of those who expect no new restrictions has fallen by nine percentage points since last year after a recent proposal in the EU to impose further restrictions on the use of ERUs in the EU ETS.

3.3 JI

The European Commission voted to ban the use of Emission Reduction Units (ERUs) in phase 3 of the EU ETS from countries without a second commitment to



the Kyoto protocol. This restriction will affect credits from Russia, which is not likely to sign up to a second commitment period.

Most respondents believe JI will continue post-2012 without issuance from Russia. While 43 percent believe issuance will come mainly from Ukraine, 33 percent agree there will be no issuance from either Russia or Ukraine after 2012.

3.4 CER/ERU prices

How will future investment depend on the price of CERs/ERUs? Two-thirds of respondents say a price at or above €5/t is enough to justify new investments in CDM or JI projects. We therefore think investments will likely be limited given our forecast for average CER price of €0.44/t between 2013 and 2020.

CDM projects issued credits in 2012 under contracts negotiated prior to the collapse in prices. But what price for CERs will be required in the future for project owners to request issuance? A share of 44 percent report they need a price at or above €5/t to request issuance. Only 7 percent will continue to issue if prices are below €1/t. These results imply that requests for issuance should decline once current contracts expire.

4. NORTH AMERICA

Since we published last year's survey, the North American carbon markets have seen several important developments. In California regulators set up crucial market infrastructure and saw the state's ETS successfully take effect on 1 January 2013. Meanwhile, Northeastern states involved in the Regional Greenhouse Gas Initiative (RGGI) agreed to tighten

the market's cap, which has been 30 percent higher than emissions since the market's inception.

Shortly after the destructive Hurricane Sandy hit New York's financial centers, President Obama put climate back on the national agenda. In his State of the Union Speech on 12 February, he urged Congress to pass market-based climate change legislation. And if Congress fails to do so, he pledged to increase regulation under current laws such as the Clean Air Act. Under the Act, the Environmental Protection Agency (EPA) can set direct emission limits on new and existing power plants.

4.1 California/WCI

Preparations for the Californian carbon market ran full tilt in 2012. The California Air Resource Board (CARB), which oversees the state's carbon market, launched an online registry for holding allowances and

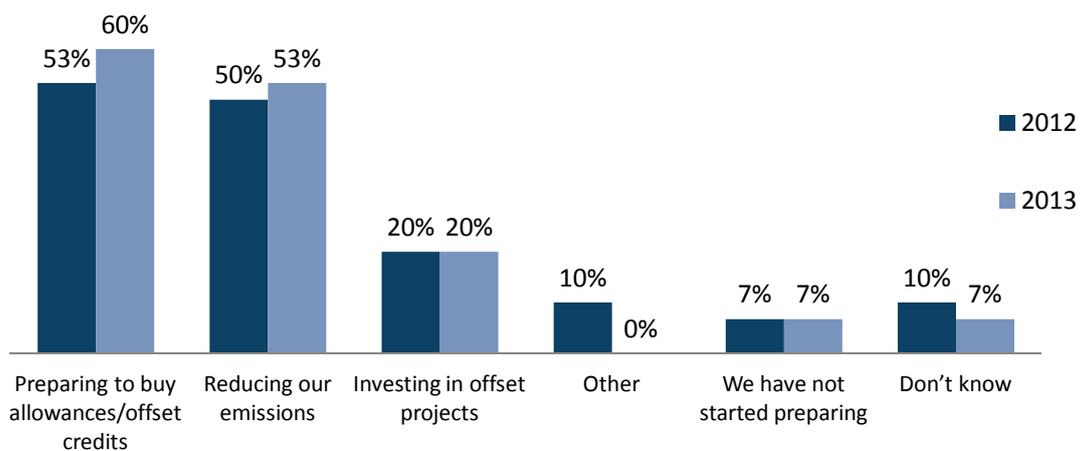
offsets and tracking transactions. CARB held a successful practice auction in August and later cleared its first real auction in November 2012. Bidders bought all offered allowances for the first compliance period and some allowances eligible in the second compliance period beginning in 2015.

This year's survey garnered the views of 15 participants with an obligation in the Western Climate Initiative (WCI), of which California is the predominant member. Seven of the respondents operate in the power sector, and the rest represents a mix of manufacturers including oil, gas and cement producers.

Ahead of the market's launch, companies in our survey continued compliance activities – internal abatement, investment in offset projects, and purchasing allowance or offsets - in the same manner as in 2011. About half of companies

Figure 31: How to be in compliance?

Asked to WCI compliance entities. N=15



Source: Thomson Reuters Point Carbon

are reducing their emissions internally, nearly the same as last year.

Looking at companies' positions, only one of the 15 respondents indicated they will receive allowances for free during the first compliance period. In comparison to 2012 when 30 respondents provided their input, the share of respondents who would need to buy either allowances or offsets almost doubled to 73 percent.

California's ETS has caused almost half of our respondents to reduce emissions or plan reductions in the future. Four of our participants, or 27 percent, report the system has already caused them to reduce emissions. Another 20 percent of our respondents plan emission reductions in the future.

Out of the 15 compliance entities surveyed, 57 percent say the long term carbon price is a decisive factor for investments in their

industry. Meanwhile, 36 percent say it influences their calculations.

In the questionnaire, we tried to assess the number of companies that would leave the state as a result of the requirements to reduce emissions. Of the 15 respondents, 67 percent indicated their company did not think about relocating to avoid emissions regulations. Although this is down by six percent from last year's survey, the share of companies that have already moved production or are considering moving grew to 13 percent.

To gauge price expectations, we surveyed a pool of 239 professionals involved in North American carbon markets. A third of these respondents include consultants and analysts; another 29 percent are regulated entities, project developers or financial traders.

Almost 60 percent said they

expect the price of California allowances will range between the price floor of \$10.71/t and \$15/t in 2013. This is on par with our WCI price forecast, as we foresee a price of \$15/t for 2013. About 19 percent of respondents expect the price will be below the price floor, and 18 percent said they think the allowance price will be in the range of \$15-20/t.

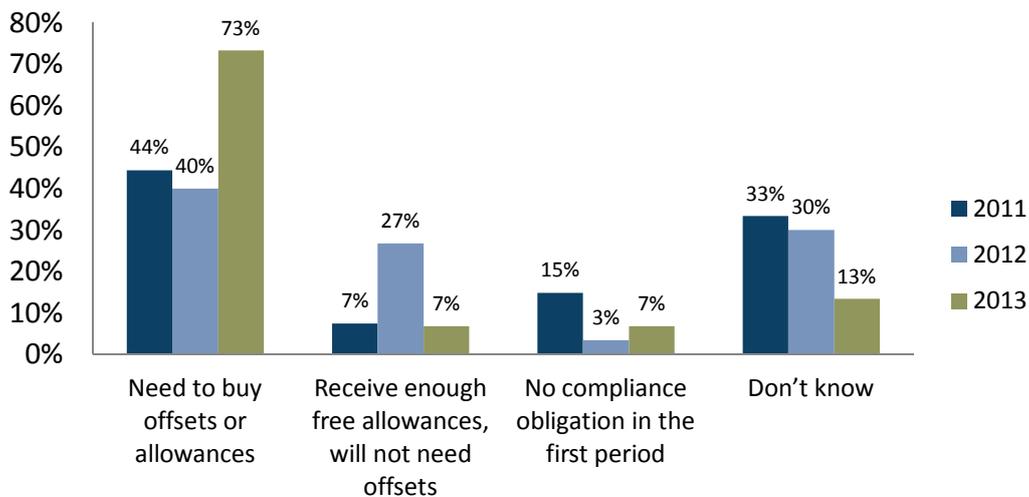
Just over half of all participants foresee prices in the \$17-30/t range by 2020. Some 27 percent were more bullish, expecting the price to be between \$30 and \$50/t. These price expectations are modest compared to our price forecast for WCI allowances of \$73/t in 2020.

4.2 North American offsets

We surveyed 319 professionals involved in North American carbon markets about the effectiveness of offsets from this continent. More than half say they believe

Figure 32: What best describes your company's situation in the California cap-and-trade programme in the first compliance period (2013-2015)?

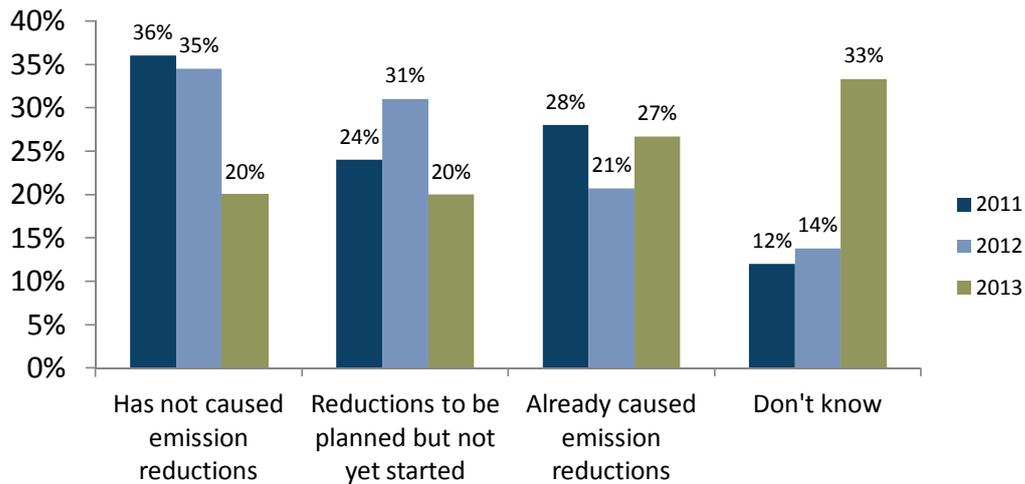
Asked to WCI compliance entities. N=15



Source: Thomson Reuters Point Carbon

Figure 33: Impact of the WCI cap-and-trade programme

“To what extent has the California and/or Quebec cap-and-trade programme caused your company to reduce its own emissions?”
 Asked to WCI compliance entities. N=15



Source: Thomson Reuters Point Carbon

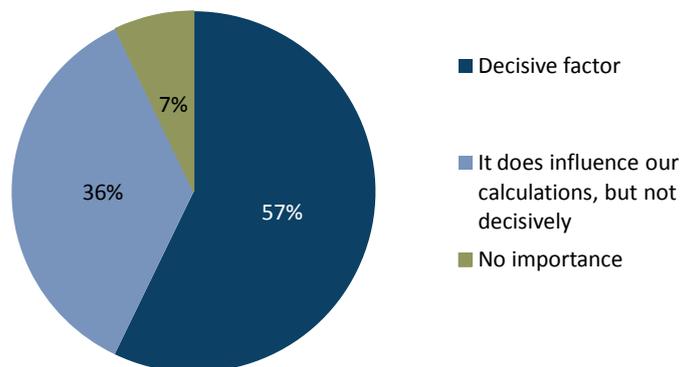
the North American offset market produces real emission reductions, up by 12 percent from last year. Forty-five percent said that they think the American offset market fosters innovation in emission reduction methods. This share is only slightly higher than last year by six percentage points.

Over the last three years, offset standards in North America have consolidated, more methodologies have been created by various standards, and almost all offsets are now listed on a registry. The era of selling offsets without verification to a standard is gone. Our respondents confirmed this trend, and since 2011, the percentage of respondents who consider the North American offset market transparent has grown to 38 percent.

We asked respondents to rank the value of various project types on 1-5 scale. Most respondents assigned the highest value to afforestation,

Figure 34: Carbon price influence on investment decisions

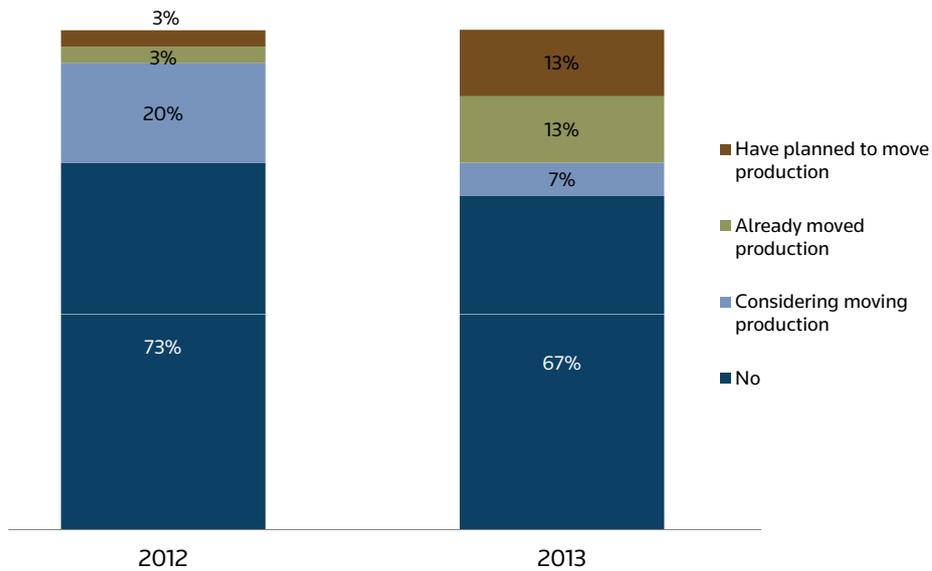
“How important is the long-term carbon price (e.g in 2020) for new investments in your industry?” Asked to WCI compliance entities. N=15



Source: Thomson Reuters Point Carbon

Figure 35: Carbon leakage as a result of carbon costs?

Asked to WCI compliance entities. N=15



Source: Thomson Reuters Point Carbon

Figure 36: Price expectations for WCI allowances in 2013

Asked to all respondents involved in North American carbon markets. N=317

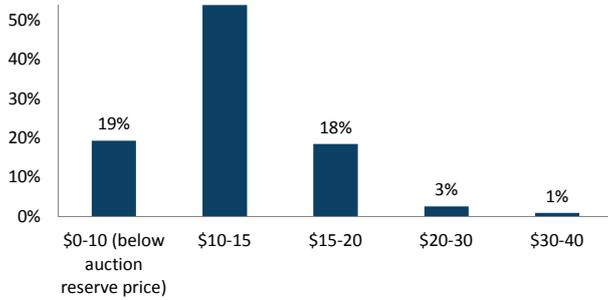
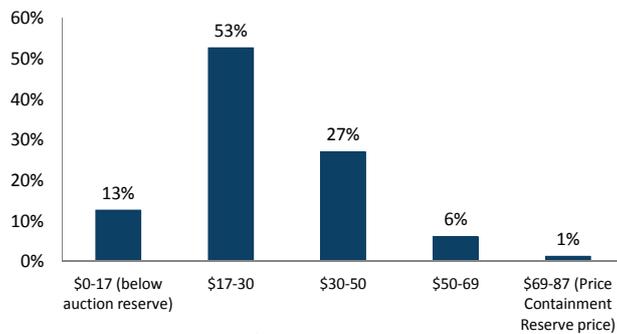


Figure 37: Price expectations for WCI allowances in 2020

Asked to all respondents involved in North American carbon markets. N=317



Source: Thomson Reuters Point Carbon

reforestation, energy efficiency and projects which destroy ozone depleting substances (ODS). REDD/avoided deforestation, enhanced oil recovery, and soil sequestration were seen as the least valuable projects.

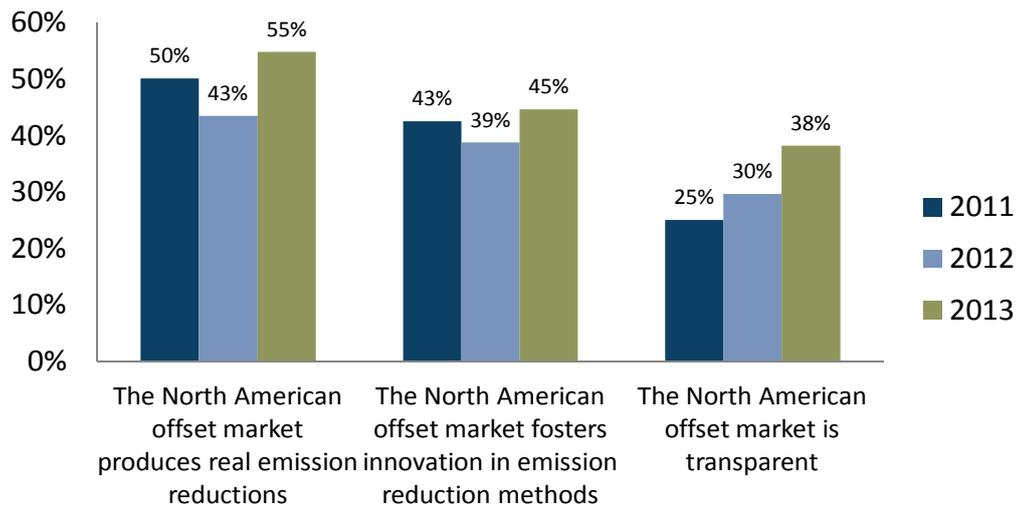
5. Asia and Oceania

5.1 Australia

Australia’s Carbon Pricing Mechanism (CPM) came into effect on 1 July 2012. Regulated entities must pay a fixed price for their emissions until 1 July 2015, when they will enter a “flexible price period” – a cap-and-trade system. The potential for a carbon market in Australia however is uncertain due to strong political opposition by the Liberal Party. Led by Tony Abbott, the party is projected to win the Australian 2013 general elections in September.

Figure 38: Assessing the North American offset market

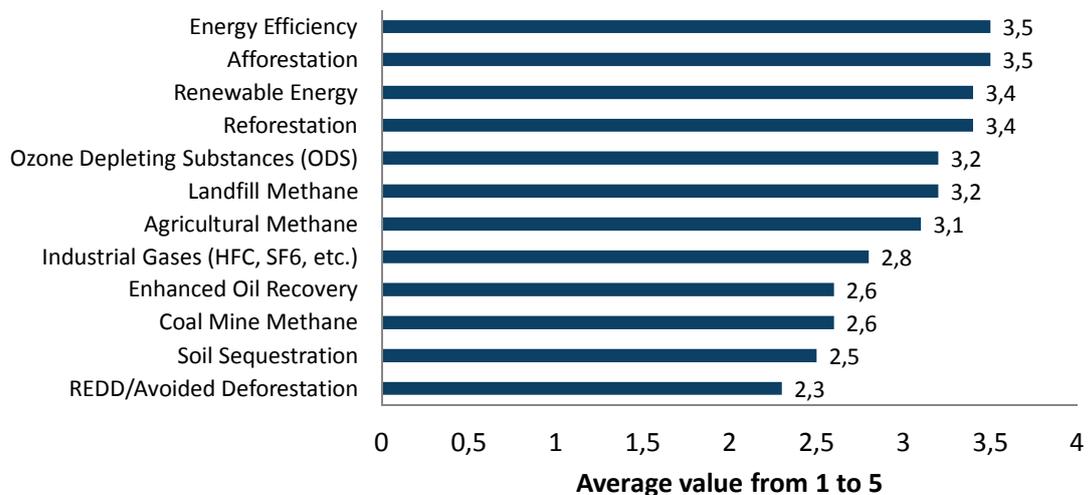
Share of respondents who agree with the given statements, given as options 4 and 5 on a scale from "strongly disagree" (1) to "strongly agree" (5). Asked to all respondents involved in North American carbon markets. N=319



Source: Thomson Reuters Point Carbon

Figure 39: Evaluating North American offset types

"How much value, on a scale of 1 to 5, can you assign to offsets from the following project types? Please answer based on projects originating in North America." Asked to WCI compliance entities. N=15



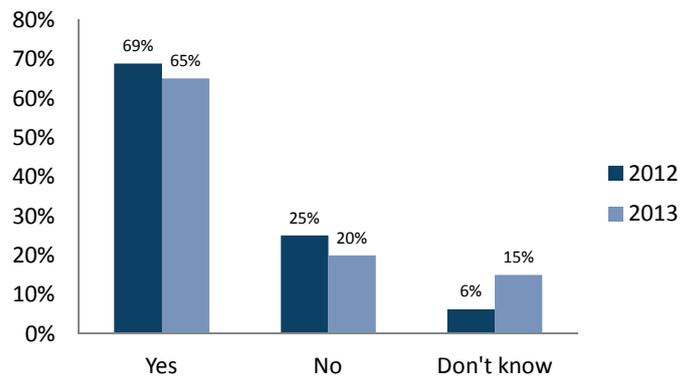
Source: Thomson Reuters Point Carbon

However, most of our respondents believe the cap-and-trade program will come into force as planned in 2015. This share of respondents has declined somewhat to 65 percent from 69 percent a year ago. Observers who believe the CPM will not start in 2015 have also seen their share drop by five percentage points to 20 percent. A higher share of participants, equal to 15 percent are uncertain, compared to 6 percent last year.

Repealing the CPM is an ambitious campaign pledge on behalf of Abbot. Current polls place him in the lead for Prime Minister, but repealing the CPM would require that his Liberal Party gain a majority in the Senate as well as the House of Representatives, which appears unlikely. A double dissolution could give Abbott the power he needs, but such a bold political move is unfeasible if September's election results are narrow.

Figure 40: Australia's cap-and-trade programme a fait accompli?

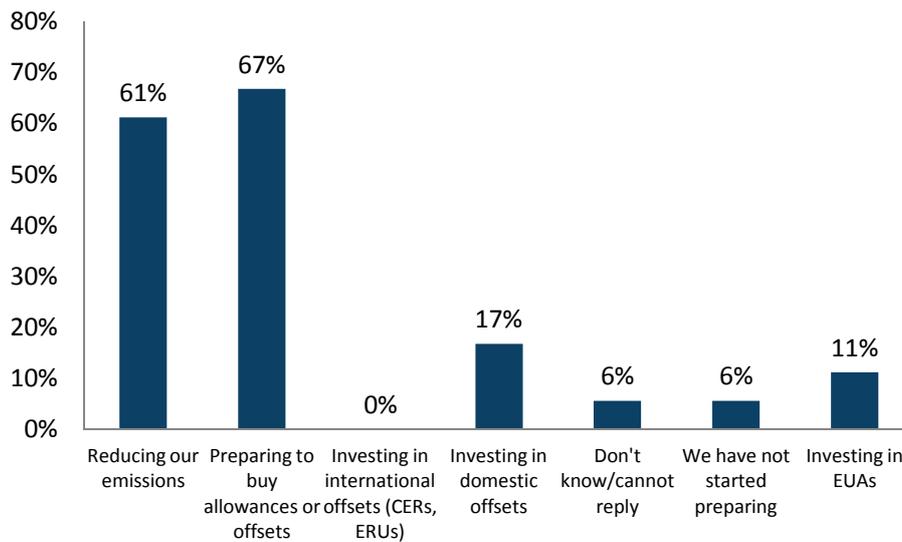
"Do you think the Australian cap-and-trade programme's "flexible" period (with a floating carbon price) will go ahead as planned, and start on 1 July 2015?" Asked to all respondents involved in the Australian carbon market. N=206



Source: Thomson Reuters Point Carbon

Figure 41: How is your company preparing for Australia's cap-and-trade programme?

Asked to entities with compliance under the Carbon Pricing Mechanism. N=18



Source: Thomson Reuters Point Carbon

Given the regulatory uncertainty around Australia's CPM, how do regulated companies manage their compliance? A large majority of participants covered by the scheme, or 67 percent, are setting up trading operations for allowances and offsets. The second most prominent compliance strategy is internal abatement. Some 61 percent or 11 participants in our sample of regulated entities say their companies are reducing or preparing to reduce emissions.

Only a few are directly involved in purchasing offsets or EUAs. The rules governing the linkage with the EU ETS stipulate that entities can use EUAs for up to 37.5 percent of their compliance obligation. The usage of CERs for compliance is limited to 12.5 percent. There are no respondents who plan to invest in these offsets at this time.

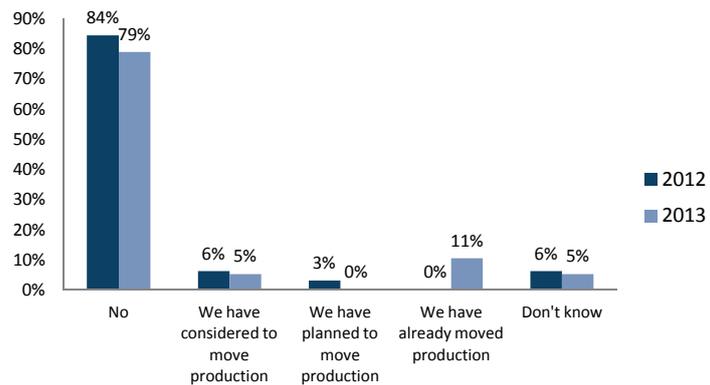
Most respondents with a liability under the CPM, 79 percent, haven't considered moving production abroad because of carbon costs. The operations of most Australian emitters, which are tied to the country's rich natural resources, make relocation unlikely. Just two respondents report having moved production in 2013.

In 2012, Australia announced it will forgo its plans to include a price floor in its cap-and-trade scheme to allow it to link with the EU ETS. The removal of the price floor could also facilitate linking with other CO2 markets. Figure 43 illustrates our participants' views on the potential for linking between Australia's ETS and any one of three other systems - South Korea, New Zealand, and the WCI market.

The expectations for linking with New Zealand's ETS are high, with the majority of respondents

Figure 42: Carbon leakage in Australia

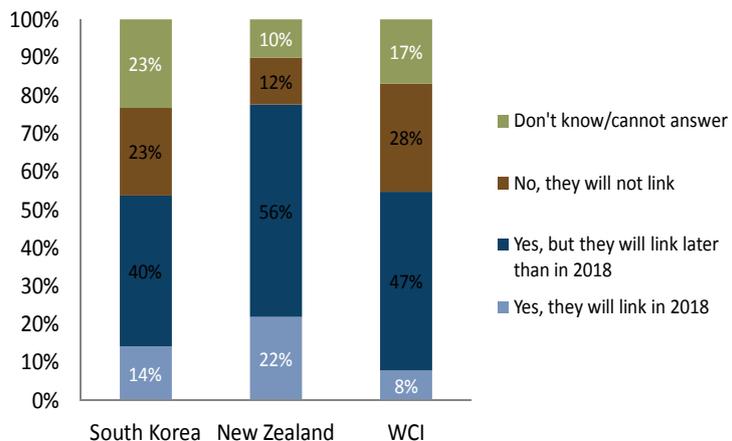
"Has your company considered moving production out of Australia because of carbon costs?" Asked to entities with compliance under the Carbon Pricing Mechanism. N=19



Source: Thomson Reuters Point Carbon

Figure 43: Linking expectations

"Has your company considered moving production out of Australia because of carbon costs?" Asked to all participants involved in the respective carbon markets. N=456 (WCI), N=228 (New Zealand), N=240 (South Korea)



Source: Thomson Reuters Point Carbon

anticipating a link before 2018. A large share of participants, or 47 percent, believes Australia's system will link with the WCI market comprised of California and Quebec and that such a link will occur before 2018. Respondents are the least optimistic about linking between Australia and South Korea.

5.2 New Zealand

The New Zealand ETS, which started operating in 2008, mandates companies to surrender New Zealand Units (NZUs) for their emissions. It is the only mandatory carbon market to include the forestry sector, which can act as a carbon sink by increasing forest cover and earn NZUs in the process.

This year's survey garnered the

views of eight participants in the New Zealand ETS, down from 19 last year.

In this year's survey, 19 respondents are companies covered by the New Zealand ETS, down from 32 last year.

This year's results strengthen a trend observed since last year - an increasing share of participants report that emission reductions have taken place due to the New Zealand ETS. Similarly, the percent of respondents who report no emission reductions has been decreasing since 2011.

5.3 Korea

The past year was also an eventful one for carbon markets in South Korea. On 2 May 2012, the National Assembly passed a cap-and-trade bill, with a nearly unanimous vote. The government

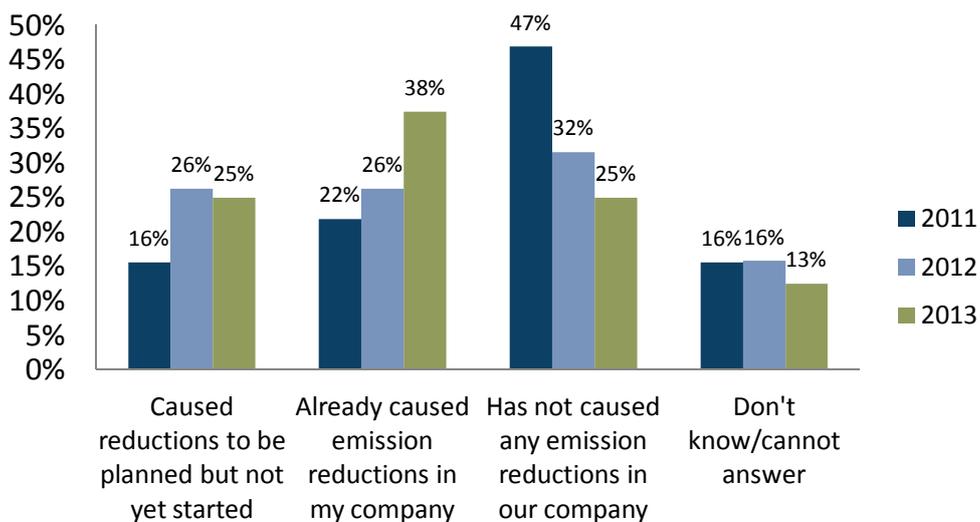
decided on basic market features and allocated responsibilities to different governmental agencies before signing the bill into law in November. It also set up a committee to establish design details such as the cap, allocation methods, offset use, and banking and borrowing rules. The deadline for finalizing these rules is July 2014. The market is to start operating in January 2015.

Out of 80 observers surveyed, a majority believe that the system will start on time, as shown in Figure 45. There is a generally positive attitude towards the carbon pricing scheme in Korea. The ETS proposal enjoys strong support from both the conservative party in power and the liberal opposition, who believe an emission trading scheme will spur clean-technology innovation.

Observers also believe that it

Figure 44: Impact of the NZ ETS on emission reductions

"To what extent has the New Zealand Emission Trading Scheme (NZ ETS) caused your company to reduce emissions?"
 Asked to NZ ETS compliance entities. N=8



Source: Thomson Reuters Point Carbon

will also reduce emissions. An overwhelming majority of participants, or 74 percent, believe that the Korean ETS (KETS) will deliver climate change mitigation. Korea has pledged to reduce emissions by 30 percent compared to business as usual by 2020.

The key concern of the Korean industry, which is heavily export-oriented, is whether a cap-and-trade system will cause them to lose competitiveness against rivals from countries with no cap on emissions. Such a scenario could lead to carbon leakage - while reducing emissions at home, the KETS could cause relocated companies to increase emissions elsewhere. Most of our respondents dismiss such a scenario, with 62 percent stating that the KETS will not reduce industries' competitiveness. Some 18 percent believe competitiveness will be affected, and 20 percent are uncertain.

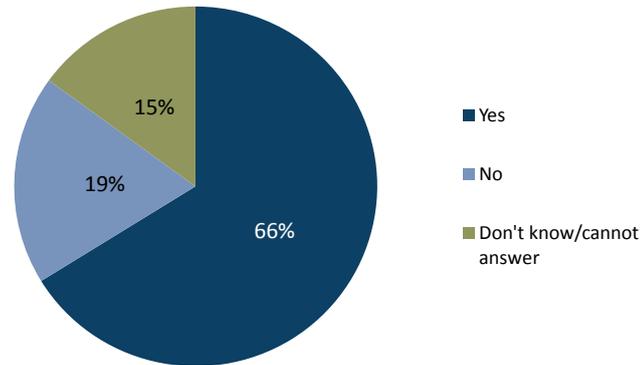
Asked what they think a reasonable price of allowances would be in 2015, most respondents with an opinion, or 25 percent, point towards the \$10-14/t range. Therefore, price expectations of these observers fall in line with the current price of allowances in California, a market of roughly the same size as the KETS.

Price levels however are too early to call, as market design rules have not been finalized yet. This explains why just over half of our respondents do not have an opinion on what a reasonable price should be.

“74 percent believe the Korean ETS will reduce emissions”

Figure 45: Will the South Korean ETS take effect in 2015?

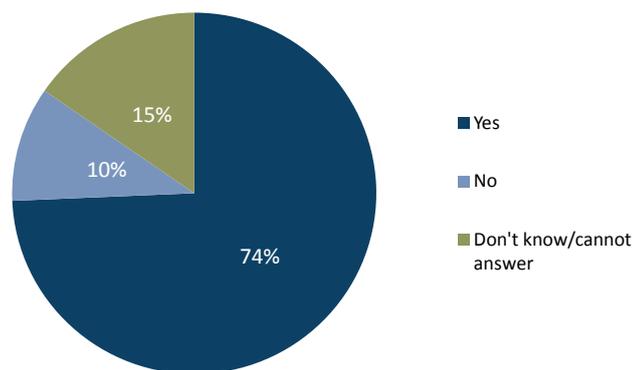
Asked to all respondents involved in the Korean carbon market. N=80



Source: Thomson Reuters Point Carbon

Figure 46: Will the planned ETS reduce emissions in South Korea?

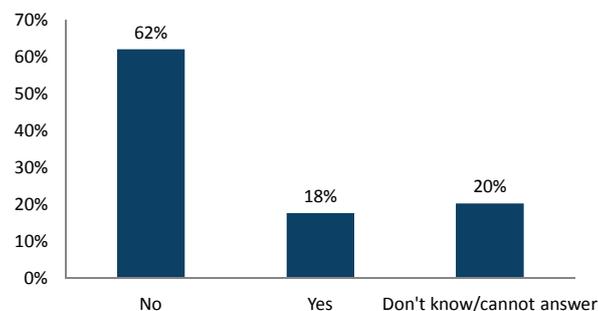
Asked to all respondents involved in the Korean carbon market. N=78



Source: Thomson Reuters Point Carbon

Figure 47: Carbon leakage in South Korea

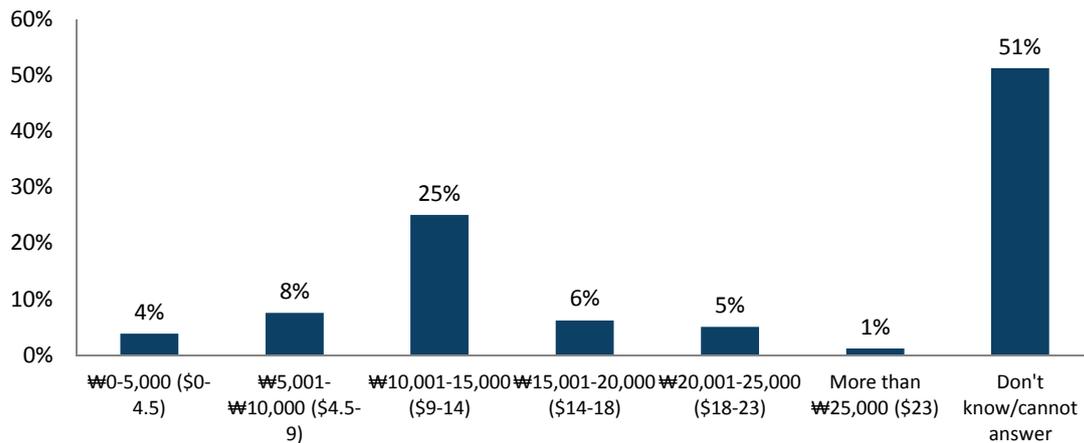
“Do you think that the KETS will negatively impact Korean industry competitiveness on international markets?” Asked to all respondents involved in the Korean carbon market. N=79



Source: Thomson Reuters Point Carbon

Figure 48: Expectations for the South Korean carbon price in 2015

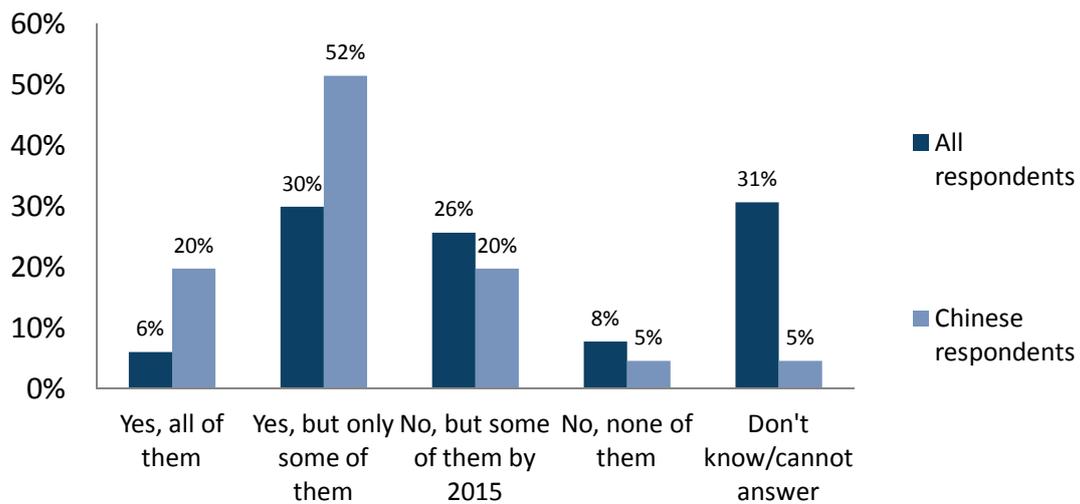
"What do you think would be a reasonable price for the Korean allowances in 2015?" Price is given on a per ton basis. Asked to all respondents involved in the Korean carbon market. N=80.



Source: Thomson Reuters Point Carbon

Figure 49a: Towards emission trading in China - a comparison of respondents

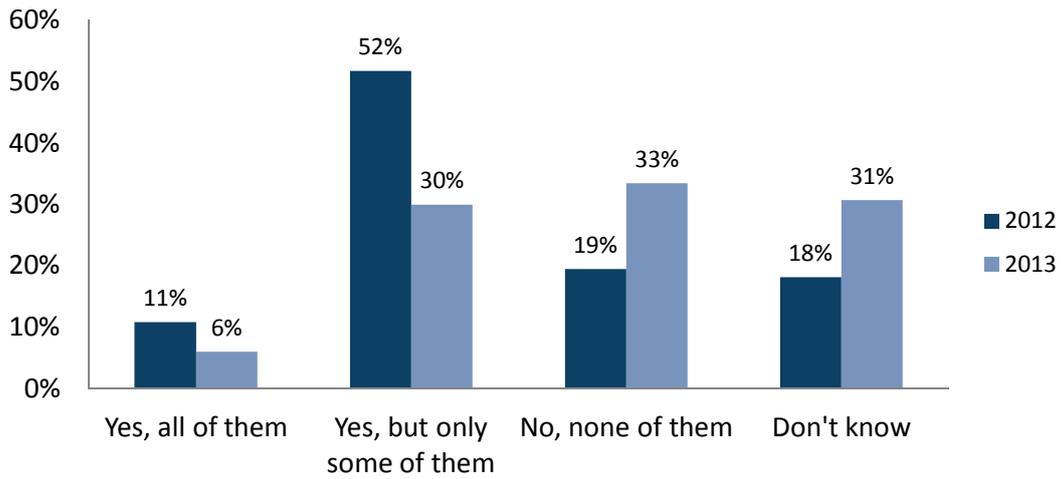
"Do you think the seven planned regional pilot emission trading schemes in China will be operational in 2013?" Asked to all survey respondents. N=1768



Source: Thomson Reuters Point Carbon

Figure 49b: Towards emission trading in China - changes from last year

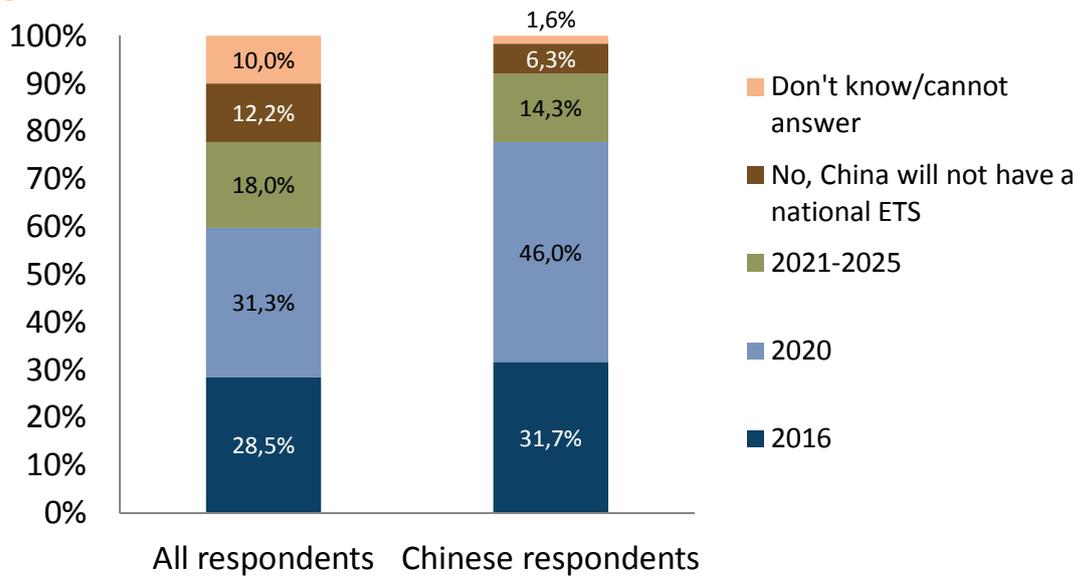
"Do you think the seven planned regional pilot emission trading schemes in China will be operational in 2013?" Asked to all survey respondents. N=1768



Source: Thomson Reuters Point Carbon

Figure 50: Outlook for a Chinese national ETS

"When do you think China will establish its national ETS?" Asked to all survey participants who expressed an opinion in the question in Figure 49. N=1219



Source: Thomson Reuters Point Carbon

5.4 China

We asked our survey respondents about the potential for carbon markets in China and the most likely date of implementation. Figure 49a provides a comparative view of the results given by all respondents and those given only by respondents located in China, a total of 66 respondents.

Out of all participants, 30 percent believe that some of the seven pilot emission trading schemes will start in 2013. Another 26 percent believe that none of the pilots will be ready by 2013, but that some will become operational in 2015. In comparison, 70 percent of our Chinese respondents believe at least some of the pilots will begin in this year, which shows local carbon stakeholders are much more optimistic about the prospects of China’s pilot ETSs than their foreign counterparts.

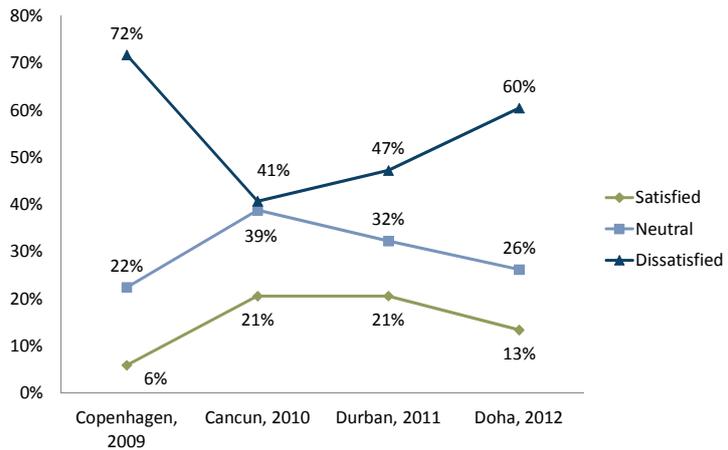
Figure 49b compares the prospects for China’s pilot programs to last year’s results. Notably, the share of respondents who expect some regional systems to begin operating in 2013 has dropped from 52 percent to 30 percent.

On the prospects of a national Chinese ETS, as much as 60 percent of our respondents believe that such a market will take place by 2020. The expectations of Chinese respondents are even more positive as 78 percent foresee a national Chinese ETS by 2020.

“for the first time since Copenhagen, the majority of respondents express dissatisfaction with the COP outcome

Figure 51: I can't get no satisfaction

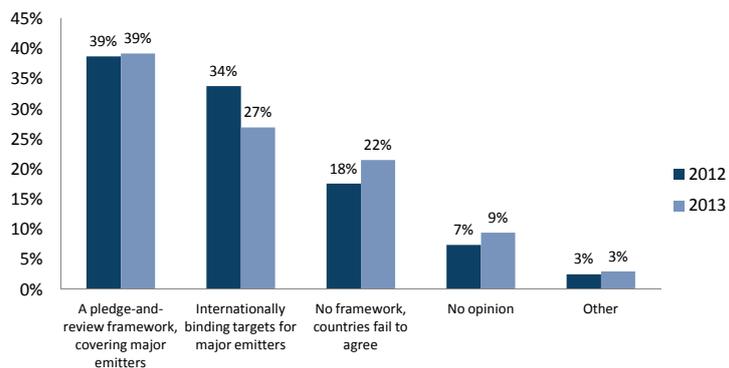
“How satisfied are you with the final outcome of the Doha Climate Change Conference (COP-18/CMP-8)?” Asked to all survey respondents. N=1754



Source: Thomson Reuters Point Carbon

Figure 52: What do you expect the overall global policy framework after 2020 to look like?

Asked to all survey respondents. N=1743



Source: Thomson Reuters Point Carbon

Even as most respondents believe a national ETS will eventually be in place in China, we believe the reliability of reported data, verification and enforcement are still the main challenges to overcome before China can have a transparent and liquid market.

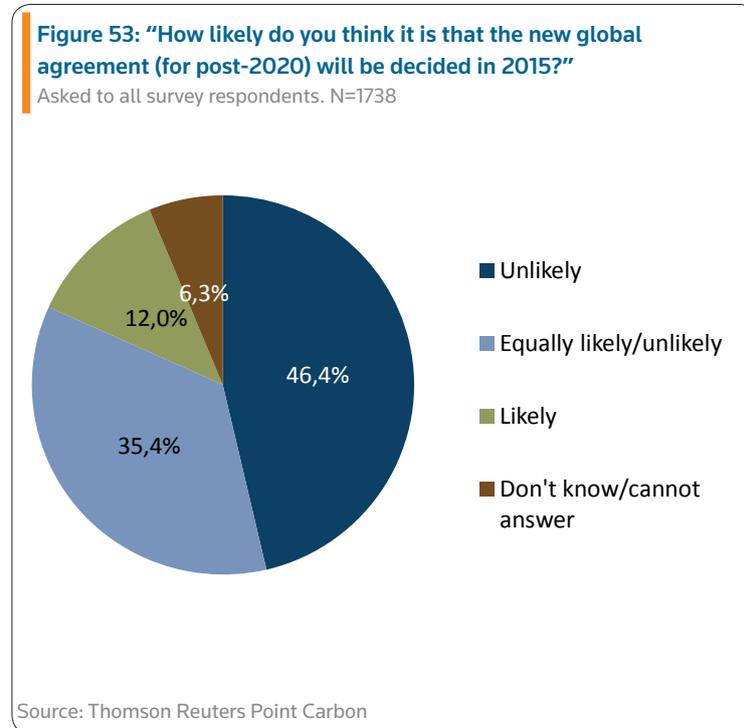
6. INTERNATIONAL NEGOTIATIONS

The key achievement of last year's COP in Doha was the decision to extend the Kyoto Protocol in the form of a second commitment period from 2013 to 2020. Parties in Doha also set the stage for future negotiations towards a global post-2020 climate regime, by agreeing on a timetable towards 2015, the deadline for reaching a global deal set.

Since 2009, we have asked carbon market participants and observers about their level of satisfaction with each annual COP. This has allowed us to build a time series of satisfaction levels (Figure 51).

This year, the majority of respondents, or 60 percent, is dissatisfied with the outcome of Doha's COP. The level of dissatisfaction has increased significantly since negotiators gathered in Durban, by 13 percentage points. Similarly, the level of satisfaction with the multilateral climate change negotiations has fallen by 8 percentage points to 13 percent.

In Durban, negotiators agreed to put in place by 2015 a "protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all Parties". This framework would then be implemented after 2020. The Doha climate summit elaborated a timeline for reaching



this deal. Parties agreed that a draft text for the 2020 agreement should be ready by May 2015 for final adoption by the 2015 COP (in Paris). How has this impacted our respondent's expectations for a global policy framework post-2020?

Around one quarter of respondents, or 27 percent, continues to expect an international deal on a globally binding emission reduction scheme. This group has shrunk since the Durban climate summit, when 34 percent believed a global deal would emerge. Meanwhile, the share of participants who do not anticipate a global framework has edged up to 22 percent, from 18 percent previously. The largest portion of respondents, or around 39 percent, expects a pledge-and-review system covering major emitters, which would represent a continuation to the current

framework.

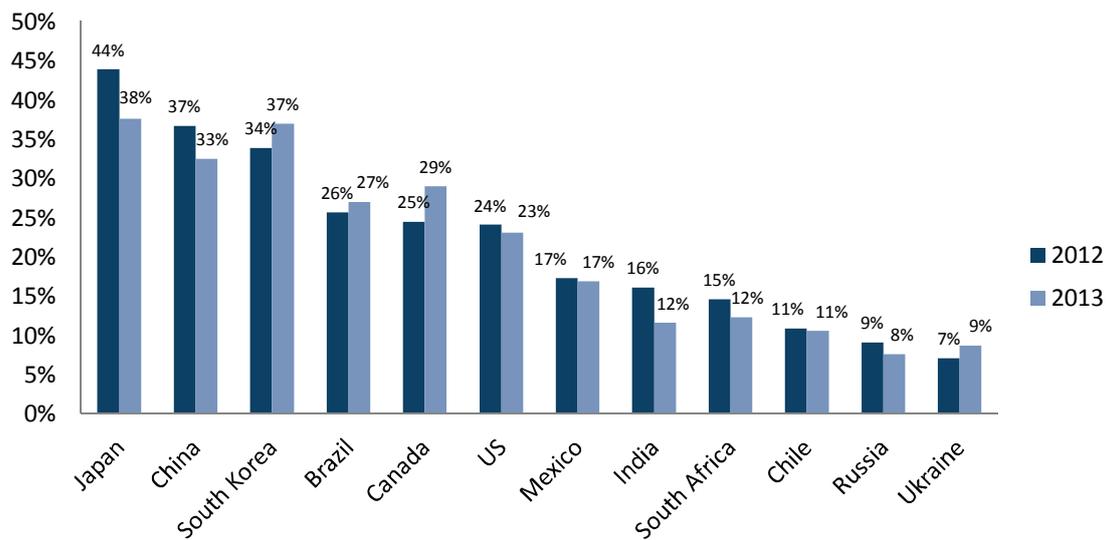
Looking at the likely timeline for a global binding framework, almost half of respondents, or 46 percent, believe that the UNFCCC will fail to reach an agreement by 2015. Only 12 percent of respondents expect the agreement to be sealed by the meeting in Paris. Some 35 percent see an equal probability whether the deadline will be met or not.

Our respondent's cautious outlook reflects the very challenging timeline facing UNFCCC parties. The agreement to extend the Kyoto Protocol, a comparatively simpler task, took seven years. Some respondents commented that a vague overall framework may be agreed in 2015, but that details and even commitments will be added later.

Until such a deal emerges, our respondents suggest a pledge-and-

Figure 54: ETSs around the world - Asia steps up

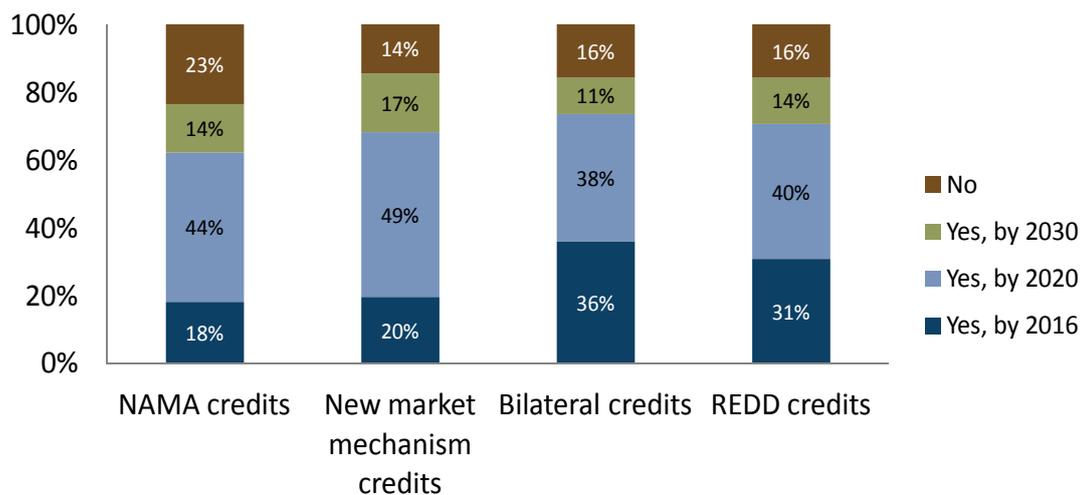
"Which of the countries below will have mandatory cap-and-trade at the national level in 2017?" N=1606



Source: Thomson Reuters Point Carbon

Figure 55: New crediting mechanisms - new opportunities?

"Do you think the following types of credits will become tradable in the coming years?" N=1694



Source: Thomson Reuters Point Carbon

review system will likely continue to govern the world's mitigation efforts. Nations will set their own emission reduction targets with no legal responsibilities towards an overarching global target. Stemming the rise of global greenhouse gas emissions will therefore depend on the emergence of national climate policies. But how likely are nations to implement cap-and-trade schemes in the near future?

Survey participants state that South Korea and Japan have the highest probability of enacting national carbon markets by 2017. The third most likely host of a national cap-and-trade measure in their view is China. Some 33 percent of respondents believe the world's largest emitter will put in place a national emissions trading scheme by 2017. Canada comes next (29 percent), followed by Brazil (27 percent) and the US (23 percent).

Expectations for national CO₂ markets have shifted somewhat since last year's survey. The share of respondents who foresee a national Chinese ETS by 2017 has fallen by four percentage points, which likely reflects the lack of progress on market infrastructure development seen from the country. Meanwhile, the outlook for a Canadian ETS has improved, following the emergence of a carbon market in Quebec on 1 January 2013. Regarding a US carbon market, expectations have remained largely flat.

Despite the implementation of California's ETS and President Obama's climate change pledge in his inaugural speech, our respondents' views likely reflect the difficulties of passing cap-and-trade legislation through the

currently divided Congress.

In Doha, parties agreed that the credits from market mechanisms other than CDM or JI can be used to meet Kyoto commitments. These could include credits from reducing emissions from deforestation and degradation (REDD), from so-called "nationally appropriate mitigation measures" (NAMAs) in developing countries, and from bilateral projects financed by an investor country without need for UN approval. The "new market mechanisms", which are still in early stages of development, could generate sectoral credits from reductions below a sector level emission baseline.

Our survey respondents are most optimistic for the emergence of bilateral credits and credits from REDD activities. REDD is the most internationally advanced crediting mechanism to date. California signed an agreement with the Brazilian state of Acre and the Mexican state of Chiapas to cooperate on generating credits from avoided deforestation. In 2012, Acre passed legislation on REDD and collaborated with a private project developer to issue the first credits from the state in 2013 verified through the Verified Carbon Standard. Japan has also come a long way in developing its bilateral crediting mechanism.

Participants are most bearish on the prospects of credit generation from NAMAs. Some 18 percent anticipate such credits by 2016 and 62 percent by 2020. At the same time, 23 percent do not believe NAMAs will ever generate credits for compliance.

Colophon

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